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NASA AVIATION SAFETY REPORTING SYSTEM:
SEVENTH QUARTERLY REPORT

October 1, 1977 – December 31, 1977

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Moffett Field, CA 94035

and

Aviation Safety Reporting System Office
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SUMMARY

During the seventh quarter of ASRS operations, 1,193 reports were received. A sample of reports relating to operations during winter weather is presented. Several reports involving problems of judgment and decisionmaking have been selected from the numerous reports representative of this area. Problems related to aeronautical charts are discussed in a number of reports.

An analytic study of reports involving potential conflicts in the immediate vicinity of uncontrolled airports has been performed; the results are discussed in this report. It was found that in three-fourths of 127 such conflicts, neither pilot, or only one of the pilots, was communicating position and intentions on the appropriate frequency. The importance of providing aural transfer of information, as a backup to the visual "see and avoid" mode of information transfer is discussed. It was also found that a large fraction of pilots involved in potential conflicts on final approach had executed straight-in approaches, rather than the recommended traffic pattern entries, prior to the conflicts. The implications of this are discussed.

A selection of alert bulletins and responses to them by various segments of the aviation community is presented.

INTRODUCTION

This is the seventh in a series of reports describing the activities of the NASA Aviation Safety Reporting System (ASRS). It covers the period from October 1 through December 31, 1977, the System's seventh quarter of operation under a Memorandum of Agreement signed on August 15, 1975 by the National Aeronautics and Space Administration and the Federal Aviation Administration.

As in previous reports (refs. 1-6), this publication presents a series of reports illustrative of specific problems reported to the ASRS. An analytical study of human factors associated with potential conflicts at uncontrolled airports is described. The third section of the report discusses alert bulletins disseminated by ASRS and responses to those bulletins.

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AVIATION SAFETY REPORTS

Introduction

As in previous ASRS quarterly reports, this edition includes a sampling of information submitted to the ASRS from participants in the national aviation system. This particular sample highlights the specific areas of winter operations, charts, and decisionmaking and judgment factors.

Readers are reminded that these reports are unverified and that specific information cited in them may or may not be correct; furthermore, the information contained in these sample ASRS reports represents the perceptions of specific individuals who may or may not understand all of the factors involved in a given problem or situation.

Winter Operations

The first category, winter operations problems, addresses those occurrences experienced by pilots and controllers in the course of winter weather conditions and their effect on aircraft operations.

The first two reports are rather straightforward discussions of approach operations under marginal visibility conditions.

1. This report concerns not one, but a series of events. During a recent 3-week period, I have conducted five approaches below CAT I limits, typically 100 obscured and RVR's ranging from 1,600 to 2,200 ft.

In four of the five, there was a tailwind. Also in four of five, there was localizer displacement or waffling at low altitudes caused, apparently, by other aircraft on the ground disturbing the localizer.

Some specific examples follow.

Event 1. ORD, runway 14R. Daytime. Weather reported 1600 RVR. Wind not a factor. Saw lights at approximately 170 ft. Some localizer waffling at about 300. Not on centerline, but fairly easy correction.

Event 2. DTW, runway 3L. Night. Weather reported 100 obscured, 2200 RVR. Surface wind 190/09. Wind at altitude unknown, but apparently strong. High rate of descent even with full flaps. Inside the outer marker, the tower reported the weather as 4500 RVR at the approach end, and 1000 at the rollout. At about 300 ft, severe swinging of the localizer started, causing 15° banks to each side. Should have gone around at this point, but as the lights were in sight, and with the reported 4500 RVR at the approach end, I decided to disengage the A/P and continue. The high rate of descent, coupled with the decreasing tailwind caused an immediate excursion below the glide slope despite efforts to the contrary, including large addition of

power. Visibility at the threshold was zilch. Approach lights visible early (300-400 ft), but didn't see green runway end lights till nearly over them (at a height of about 20 ft). Very nearly ended up in the lights.

Event 3, EWR, runway 4R. Daytime. Can't remember exact weather, but it was below CAT I limits. Surface wind was a partial headwind with some crosswind, fairly light. Windshear turbulence was reported near the outer marker. High rate of descent throughout the approach. Little turbulence. The weather was somewhat better than reported, fortunately, as we broke out badly lined up. After we landed, an INS equipped A/C reported wind at 2,000 ft to be 200° at 60 to 70 knots.

Event 4. DTW, runway 3L. Night. Weather reported 100 obscured, RVR 1600. Surface wind 080/05. The localizer became erratic again at about 300 ft. Saw lights at about 200 ft. By about 150 ft, had the runway, everything fine except that we were lined up with the right-hand edge, with about a 10° correction due to crosswind. Took a missed approach. On the second approach, conditions the same. Approach control turned us in right at the outer marker at a large intercept angle, so we were a bit busy trying to get lined up and get the coupler engaged. Tower cleared another A/C to depart, and he was rolling as we passed about 600 ft, which again caused the localizer to swing, and certainly didn't facilitate our task. Incidentally, we were still carrying a 10° crab. The second approach was successful, although the lineup was off due to the crab coupled with the decreasing wind component at the surface.

The moral of the story, as far as I'm concerned, is that there is little or no margin for error during these low-visibility approaches, coupled with an apparent feeling of complacency by nearly everyone. Just another ho-hum, humdrum routine. I think it is sheer madness to clear an aircraft to take off when there is someone on approach inside the outer marker. In the type aircraft I fly it doesn't take very much bank angle at low altitudes to drag a wing or engine pod. A corollary problem is the fuzzy area between CAT I and CAT II approaches. It is very common for the visibility to be up and down frequently, crossing the border between the two realms. As we all know, there are sterile areas on all CAT II airports, wherein aircraft are not permitted during CAT II operations, but *where they are permitted during CAT I operations*. I can think of only one time I have ever been instructed to hold short of a CAT II area due to approaches. Also, is a pilot permitted to shoot an approach to CAT II minimums (versus standard) if he has not specifically been cleared for a CAT II approach? A fuzzy area here.

As far as the tailwind conditions while shooting CAT II is concerned, I suppose that the only solution is more CAT II ILS's. Certainly in the areas talked about here, low visibility is often associated with a warm front, which will always have an overriding southerly wind. Boston is infamous for this. In any event, the last thing a pilot needs when trying to cope with a CAT II approach is a tailwind, and if he does have that to contend with, throwing in an erratic localizer really loads up the crew.

* * *

2. Flight was scheduled FLL-BUF-YYZ, with BUF weather marginal.

In conversation with dispatcher at FLL, he indicated possibility of over-flying BUF to YYZ. While enroute, the BUF weather was reported 1/4-mile visibility. We checked our charts and requested company clearance to overfly Buffalo, which we received. We then changed our ATC clearance to YYZ.

Sometime thereafter, dispatch called saying that numerous aircraft had landed BUF, that another of our company's aircraft had just landed, that BUF seemed OK, and he would like us to land there. We changed our ATC clearance to BUF.

We tried to decide on what basis previous aircraft had landed. We thought of substituting the reported visibility for the appropriate RVR requirement. BUF RVR was out of service.

Our second officer was able to talk to the second officer on the other aircraft, who reported seeing approach lights at 350 ft, runway lights at 250 ft and good visibility underneath. This seemed to indicate we could let down to minimum-decision height on the basis of all the information and circumstances. We found the weather even better. The lights of town were visible from the ramp.

The difficulty and pressure of checking our precise legal requirements (aircraft icing was being encountered) led us into technically landing below minimums.

Our manuals didn't help much — both the look-see and RVR-visibility conversion sections were ambiguous. Could we not clarify, and periodically train on, weather minimums?

The next report of an attempted VFR operation deals with the importance of accurate weather information, particularly during the winter with nighttime conditions approaching or occurring.

3. I departed Pontiac, MI enroute to Gaylord for a hunting trip. Time of departure was approximately 3:30 P.M. I had received a telephoned weather briefing from FSS at 2:45 P.M. There was no information available from Gaylord; however, Houghton Lake which is south of Gaylord was reporting marginal VFR with conditions expecting to improve. I also checked Pelston which is north of Gaylord and they were reporting VFR conditions of 2,000 ft with 4 miles visibility.

I made a stop at Standish and then proceeded to West Branch where I landed and called Gaylord to find out what their field conditions were. I received a pilot's report that a 2,000-ft overcast was present with approximately 3 miles visibility and scattered snow showers. I then called National Weather Service at Houghton Lake and received a report that the ceiling there was 2,000 ft and 3 miles visibility with scattered snow showers. West Branch was 3,000 ft overcast with approximately 7 miles visibility when I landed at 5:30 P.M. With this information I decided to continue the flight to Gaylord, after refueling with the intentions of turning back if conditions deteriorated. Halfway between Houghton Lake and Gaylord the ceiling

dropped abruptly from 2,100 ft to 1,200 ft. I immediately make a 180° turn and encountered moderate turbulence and freezing rain. There were towers in the area so I gained as much altitude as I could and remain in sight of the ground.

I remained in these reduced visibility conditions for approximately 20 minutes, and picked up a considerable amount of ice. This icing condition caused the two radios on board to become inoperable, the engine developed vibration from ice on the propeller tips, a reduction in airspeed occurred and the directional indicator became inaccurate and drifted without my knowledge. I applied carb. heat at this time but was still experiencing a roughness in the engine plus the reduced airspeed.

I thought I was on a 150° heading back to West Branch when in fact the directional indicator was off by almost 60°. When I discovered I was off course I started a visual search for an airfield. I spotted a rotating beacon and immediately headed for it. The airfield turned out to be Wurtsmith AFB. I circled the field until the tower gave me a visual green light to land. My primary concern at this time was to land as quickly and safely as possible without further search for a civilian airfield.

I remained at Wurtsmith for approximately 1 hour. During this time the ice had a chance to melt and I cleared the plane off and got the radios and navigational equipment back in working order. After performing a thorough preflight on the aircraft, I filed a VFR flight plan and returned to Pontiac.

I believe that this situation occurred because I did not know of the freezing rain and icing conditions that I encountered.

My suggestion to prevent a recurrence of this incident is to *thoroughly* check all phases of a weather briefing and *never* attempt a VFR flight at night under marginal VFR conditions. Needless to say that this was a terrifying experience that I shall never forget. (This was my first and hopefully my last encounter with ice.)

Cold weather can do unusual things to otherwise reliable aircraft; the next three reports discuss occurrences associated with the freezing or icing of aircraft components.

4. Our flight was from Miami to Montreal. There was no winter kit installed on the aircraft. We encountered very cold weather after leaving Washington, D.C. The oil pressure was lowering constantly; approaching Burlington it went below normal level. We had to stop at Saranac Lake. We had a frozen oil cooler and the constant-speed prop was out of action. It could have been prevented if we had been told in Washington that we would encounter this problem.

I am told here at Saranac Lake that it happens four or five times a year . . . that an airplane will have to stop here with this same problem.

This can be prevented if a winter kit is installed or by putting in a piece of cardboard to hide part of the oil cooler.

* * *

5. The aircraft was towed to the hangar by maintenance for extra section flight LGA-YUL. Dry compacted snow on ground and temp 26°F aircraft glycoled and I departed LGA. Noted some lateral out-of-trim during climb-out but not that significant. OK in cruise, aircraft clean and very light icing encountered briefly during acceleration phase as we climbed through the freezing zone; aircraft was in clean configuration at this time. During approach to YUL, noted out-of-trim again and ended up with 2 units left-wing down-aileron trim and 35° of left-yoke displacement to maintain wings level. YUL maintenance checked aircraft and found areas of ice about 1/2 in. thick on the top leading edge of the flaps which could only be seen with the flaps extended 50°. Floating spoilers could not be found per my suggestion, but aircraft was thoroughly glycoled with flaps and spoilers fully extended. During approach no engine or airfoil anti-icing was used as we never got above -8°C and no icing was noted.

The question is what would have ensued had we lost an engine on the wrong side under these conditions?

The most important question is, however, when and where did the ice accumulate? Anyway, why was it not found? There was no slush at LGA although it was snowing all day. The ice was probably picked up inbound on the previous trip and flaps unknowingly retracted. Experiments are being made with 90% water and 10% glycol de-icing mixes, although there are no data available on the effectiveness of, and the durability of, a coating of 100% glycol in protecting from the adhesion of ice and snow. At the same time procedures are lacking to postflight the aircraft in icing weather to insure that there are no hidden ice accumulations. I have personally had to specifically instruct maintenance where to de-ice underwing flap areas which would have been missed.

* * *

6. The pilot called for airport advisory information to taxi out. I noted the aircraft wings and tail surfaces and fuselage were covered with a layer of frozen snow and frost. I mentioned this to the pilot at the time I issued the advisory for taxiing. The pilot said that he agreed there was a little ice on the aircraft. He did continue to taxi to the active runway and made no further mention of the ice on the aircraft.

After a minute or so I again contacted the aircraft. I had noted when he was taxiing out that there were four people aboard. I was very concerned that the aircraft was not in a condition to fly. I called him and suggested that I had scanned the top of his wings when he was taxiing and that the snow appeared to be frozen to the top of his wings and tail surfaces. I suggested that he might taxi over to the Flight Service Station and I would loan him a ladder and a broom to get some of the ice off the aircraft.

He considered this for a short time and decided he would take the suggestion. After he had scraped some of the ice from the aircraft he was inside talking and did not seem to realize the consequence of frost and ice on the aircraft

wings and tail surfaces. I explained to him the loss of lift due to the interruption of the airfoil. He then decided to cancel the intended local flight.

During the conversation I discovered he had a full load of fuel. The three passengers on board were three men.

I think this incident points out the need for continuing education being offered to pilots in seminars, etc.

Pilots have noted the need for more accurate actual airfield condition reports just prior to winter landing operations. The following two reports discuss the consequences of untimely ATIS information and the need for as much information as possible from ATC personnel.

7. The following is a general description of runway conditions obtained by NOTAM at about 1500 EST.

Runway 30 ice covered. Runway 35L — 17R, 2 in. ice. Runway 35R — 17L, 2 in. ice, sanded.

On arrival at about 1750 CST, ATIS information India, "28°F, 300/02, 30.42." No mention of runway conditions.

On tower contact we were cleared for runway 35L. When we inquired about the condition of this runway the tower replied that 35R had been sanded, but "aircraft have been using 35L all afternoon with no complaints."

On short final to 35L we observed that the runway had a 50% to 60% covering of what appeared to be mixed ice and snow.

Completed the landing with no problems; however, it was necessary to remain on the clear half of the runway, apply full reverse thrust and use hard braking on the clear areas, to slow to a safe taxi speed. Braking action poor to nil on areas of snow and ice.

It is possible to safely operate on runways with the conditions I've described if the crew is fully informed of actual conditions.

Failure by the tower to issue an adequate description, e.g., "... 50% ice and snow covered," etc., could prove to be an important factor leading to an incident or accident involving loss of directional control on landing rollout.

The tower's remark "... aircraft have been using 35L all afternoon with no complaints" was, in my opinion, a totally inadequate description of the true condition of the runway.

I feel controllers should be cautioned to provide a complete and accurate, though concise, word picture, either through the tower or ATIS, to landing aircraft when runway conditions are less than optimum, that is, clear and dry.

* * *

8. We were on approach to XYZ Airport, the crew had received the current ATIS and so stated when the initial contact was made with tower. The ATIS was calling the weather conditions 1400 overcast, 1 mile visibility with light snow. Runway 4 right ILS was in use. No mention of airport or runway conditions which made the crew request runway conditions from the tower while on the approach. Tower personnel advised that braking action was reported fair by a medium twin. No additional weather was issued nor were there any references made as to unusual runway conditions. The approach continued and it was not until the middle marker and at decision height when the runway end identifier lights (strobes) were called in sight by the copilot. The captain then went to visual cues and saw the strobes but was uncertain of the exact runway location due to the blanket of snow and the unplowed runway. The exact location of the runway was determined and landing elected. Due to delayed decision touchdown was approximately 1,500 ft down the runway. Braking was applied and found to be nil. It appeared the aircraft was not going to stop in the remaining runway, so the No. 1 engine was shut down. It looked as if the No. 2 engine was going to have to be shut down too; however, the aircraft was stopped just short of the end. No. 1 engine had to be restarted to taxi through the snow. Due to the depth of the snow the taxiways were absurd and taxiing was very difficult. This near-accident was created by the outdated ATIS and the tower personnel's failure to advise the crew of the unusual or abnormal conditions that were existing. To prevent this from happening, the crews of landing aircraft should always be advised of any changing conditions or of any unusual conditions existing in the airport area and on the airport.

Perhaps a little more communication and understanding on the part of both the pilot and the controller could have avoided the situation discussed in the following report.

9. While flying VFR on top at 17,500 in a turbocharged, single-engine aircraft it became apparent that we would have to file an IFR flight plan.

I am IFR rated. The passenger riding in the front right seat is also IFR qualified. He was handling the radios. I told him to call Center and obtain an IFR clearance because the clouds were building rapidly. We, of course, did not want to violate FAR 91.97 (a)(1). We knew ice would form if we flew into the clouds above the freezing level. The aircraft is not certified to fly into known icing conditions.

The passenger called Center. After a bit, the first controller contacted handed us off to a second controller. The passenger requested an IFR clearance and specifically requested an altitude above the clouds or, as I recall, 20,000 or 21,000 ft. The controller, without giving any reasons, assigned us to (I believe) 16,000 ft. We, of course, demurred. We were concerned about the safety of the

airplane and the passengers at that altitude and we wanted to avoid violating FAR 91.209 (b). After a bit, the controller assigned us to 19,000. Again, we rejected the clearance. The passenger explained that we did not want to be placed right in the middle of the ice. From the controller's voice it was apparent that he was quite miffed. Meanwhile, we climbed above 18,000 ft to stay clear of clouds while we were sorting things out with the irritated controller. After all, we were continually in contact with the controller who could advise of traffic and of course by remaining clear of clouds we could observe the traffic ourselves and avoid icing.

Finally, with obvious irritation, the controller assigned us to 12,000 ft. We accepted that clearance and began an immediate descent. We proceeded IFR and landed without incident.

I believe the controller came close to creating an unsafe condition. He either knew, or should have known, that to fly our airplane at 16,000 to 19,000 ft, in clouds, above the freezing level would result in at least (1) a violation of FAR 91.209 (b) and/or at worst (2) a hazardous situation which could have endangered the aircraft and its passengers.

This situation could have been avoided by a more cooperative attitude on the part of the controller.

Surface conditions at destination airports have been the subject of several ASRS reports. Of particular concern has been the exchange of information between aircraft crews and airport management personnel responsible for reporting airport conditions. The following three reports provide good examples of concerns expressed by pilots.

10. NOTAMS and runway condition reports for XYZ Airport indicated a "bare and wet" condition. I was in command of an air carrier flight on the day in question and landed at approximately 0650 local time. As I taxied in, I heard a light aircraft that landed on runway 25, report that *braking action was poor*. Since there were patches of ice on the ramp and taxiways, the same condition must have existed on runway 25.

Many airline pilots will specify alternate fuel when the destination airport has only one runway in operation, since an aircraft could blow a tire and close the runway for some period of time.

A "braking action poor" report in some instances has the effect of closing that runway to some aircraft which might not be able to use that particular runway with such a report when landing at higher gross weights and faster approach speeds.

Clearly then, such information, when known, must be provided to pilots prior to their departure so they can flight-plan professionally, and in accordance with FAR's.

I am bringing this situation to your attention because the airport manager at XYZ airport disagrees with this line of reasoning. I had *three* somewhat similar

situations at XYZ in 1977, when either runway 25 or 21 was closed for construction. When I explained my concern over the situation he smartly retorted that this was the purpose of contingency fuel. In each case, I would have added alternate fuel but was denied that choice because he refused to provide the necessary information.

It is my belief that contingency (or reserve) fuel is to be used only when *unknown* or *unexpected* situations arise and certainly not for a predictable one.

My concerns are therefore twofold:

1. Pilots must know the "total airport condition" whenever such information is available.
2. The airport manager at XYZ (or any airport) should not withhold vital airport information which could affect fuel loads, designated alternates, or any other operational decisions. By withholding such information he, in effect, makes these decisions himself. Clearly, this is not his decision, but that of the captain.

* * *

11. This report covers two occurrences (dates not recalled) during winter operations at night from the Metro Airport. I am an air mail pilot operating a light twin. On both occasions a heavy snowfall had occurred during the day but the active runway remained clear after plowing. Blowing snow had caused 2-in. drifts by 2300 hours (local time) when I departed. My scheduled return was delayed from 0200 hours until 0500 hours. I had checked with the airport manager to determine when snow removal operations would resume and was told crews were off from 1900 hours to 0400 hours. All flight operations were conducted without incidents, due to the fact that my flight originated at that airport and conditions were therefore known. IFR conditions prevailed with 200-400-ft ceilings and visibility restricted by blowing snow.

No accidents occurred from the snow-covered runway but I feel that the potential is there. After checking with plow drivers, I found that drifts in excess of 1½ ft completely covered the runway. No advisories of this situation went out over the teletype circuit. ABC airlines personnel made a runway inspection at approximately 0000 hours *for their own company* and cancelled several flights. Their inspections are performed only when their own flights need that information. Their reports are forwarded to the tower.

Airport management on both occasions was aware of the severity of the drifts. Prior to one of my departures, the airport manager told me he would be happy to close the airport officially so that I would have a good excuse to delay the mail. I informed him that the mail would be delayed whether or not he closed the airport as I had made my own decision.

Had another aircraft arrived at (for example) 0300 hours, the tower advisory would have been several hours old and the true extent of snow coverage would not have been known. A pilot reaching ILS minimums with visibility restricted is in no position to make an accurate assessment of the runway condition. An attempted landing would have been disastrous.

I feel very strongly that these conditions should have been NOTAMED with the hourly sequence report for use during *preflight* planning. A note to the effect that the last observed snow cover at 2400 hours was 6 in., that plowing was not in progress, and that snow accumulation was increasing would certainly alert a transient pilot to stay home for a while.

Also, if the airport manager was willing to close the airport for *me*, why didn't he close it for the guy that wasn't aware? The airport was not closed on either occasion.

ABC airlines (and others) have company NOTAMS or airport conditions which are *current*. Why can't general aviation have the same? The network for disseminating this information is already in existence.

* * *

12. On flight 123 from ABC to Chicago we were told the active runway was 15 with 1/4 in. of slush. (Wind 0610). As we taxied out a heavy jet transport landed and reported 1 in. "or more" on runway. Our operation does not allow operation with 1 in. of slush. (Any depth over 1/4 in. requires some restriction.) We pulled over on the taxiway and asked how long runway 10 would be closed for snow removal. We were informed "15-20 minutes" (time was 1649). At approximately the same time the airport manager called on ground frequency and stated he was going to check the report of 1 in. on the runway. His voice inflection was one of disbelief. While waiting on the taxiway we observed another heavy jet transport land on runway 15 and he was totally covered in slush during his landing roll. This was enough to convince us not to use 15 but wait "15-20" minutes for runway 10. Shortly thereafter, the airport manager reported 1/4 in. slush on runway. We taxied out to runway 10 and waited. At 1720 we requested estimate of opening of runway 10 and were again informed "15-20" more minutes. To cut this short, we were airborne at 1750. That's 1 hour and 10 minutes. We spoke with our dispatch and were informed an ABC airlines official was with the airport manager during the runway inspection and stated "they can't operate at all with more than 1/4 in." Very interesting; as an air safety chairman, I found this entire episode terrifying. Slush is very deceptive; it does not really affect low-speed operation much at all — however, at the higher speeds, it can slow the aircraft down to the point of not reaching flying speed. I am personally very operationally minded and it was very hard to sit there and watch other carriers take off on runway 15 while we waited 1 hour and 10 minutes (were we being punished for daring to question the airport official?). You may say — "there hasn't been one reportable accident due to excessive slush" but then for years there

weren't any reports (accidents) due to wind shear! I was very impressed with the captain's firm stand on the issue. The interface between flight crews and airport officials has taken one giant step backwards.

Operating on the taxiways at some airports can also be challenging, as attested to by the next two reports.

13. While turning off taxiway Delta to the outer taxiway, the right-wing gear left the load-bearing portion and sank into the heavy snow cover and dirt. The right wing gear was still *inside* the blue taxi lights. On checking with DTW airport operations the next morning, I was informed that the blue taxi lights were located 3 ft outside the load-bearing surface, into the dirt area. Checking further, I also found out that DTW airport has a combination of taxi lights that are both on load-bearing surfaces and off load-bearing surfaces. Visual check at ORD revealed the same circumstances. With a complete snow cover, it is impossible to visually check the edge of the load-bearing surface. Evidently there is no standard method of placing taxiway lights.

Taxiways were covered with compacted snow and appeared to have glaze ice covering. Braking action was nil at the corner of the taxiways.

* * *

14. While taxiing from MKE terminal, option was given to use runways "1" or "7." I chose runway "7." While taxiing to 7 I accidentally crossed it and then went on to use runway 1.

I hadn't been into MKE for several years and that is a contributing factor; however, there was so much snow coverage neither I nor my copilot could identify the taxiway to "7." My copilot was a frequent user of MKE and was surprised that he didn't identify the taxiway.

This incident does not involve a near miss but I believe it could. Therefore, I believe it could be a safer operation if an airport that has snow coverage would place some colored markers to key taxiway points. Just two for each taxiway would be a help. I suggest a tall slender wand (4 ft would be enough for some areas). These markers are used on ski trails, and are very helpful. If ground control could refer to "turn right at yellow marker," or "left at blue," etc. These would be in place any-time that airport is in operation with snow covering ground and taxiways and removal of snow from taxiways has not had time to take place.

Movement on snow covered airports is always difficult. It might be good if a red marker would be placed where taxiways cross runways as low visibility or blowing snow can make a plowed runway hard to identify.

Judgment and Decisionmaking

Many ASRS reports relate to the judgment and decisionmaking process. The reports are generated and submitted by both observers of and participants in the occurrence that is the subject of the report. All of the following reports reflect some type of conscious thought process, some more conscious than others. Without passing judgment on any of these events, there seems to be at least one lesson to be learned from each of them.

15. I called the flight service station for a weather briefing and to file two IFR flight plans.

One IFR from Columbus, OH to Chattanooga, TN, departing CMH at 1200Z. The other IFR flight plan departure from XYZ for Columbus, OH at 1100Z. Weather at XYZ was reported 900 BKN 1500 BKN 4500 OVC 8; CMH was reported 700 OVC 6, light rain. After giving the FSS at XYZ my two IFR flight plans I asked him if I could get my clearance in the air from CMH approach on 124.2. He answered affirmative, and at 1115Z I departed XYZ on runway 25 and it was total darkness.

Intending to remain VFR and get my clearance from CMH approach, however after 500 AGL or 1600 MSL I was in solid cloud and I reported to CMH approach at 3 minutes after departure advising them I was in the clouds and needing a clearance.

They questioned as to my filing an IFR flight plan and gave me a vector direct to APE VOR and a clearance for ILS 28L. After landing they requested I contact the supervisor and give him an account of what happened. I realize now that any pilot who thinks he can maintain VFR when the nearest reported ceiling is 1500 AGL in darkness at night isn't really sure. Hereafter, I will always get a void clearance time for any night flight. I feel it should be compulsory to get a void clearance anytime after dark regardless of ceilings.

* * *

16. I assumed the arrival position at 1200Z and received a briefing. I had seven aircraft holding at Micke, 8,000 through 14,000 ft, and a light twin holding at RVH VOR at 7,000. I was taking traffic from the Ellis sector and vectoring to final. JFK was landing ILS 4R. I had four Ellis aircraft on vectors and instructions to run all of my aircraft behind the Ellis traffic. At about 1220Z, a runway change was made to ILS 13L due to very low ceiling, wind, and wet runway conditions. I instructed all the aircraft to set-up for ILS 13L. At 1228Z the pilot of the light twin asked me how much longer it would be before he got down. I advised him he was on vectors. He then informed me that he had "red lights." I asked him to say again and he said his low fuel lights are on. I asked him how much fuel he had and he replied 12 gallons. I advised him that he was on vectors for 13L and that meant about another 50 miles before the runway. The pilot said only "roger." I then informed pilot that I had declared an emergency and he would be vectored to ILS 4R, the nearest IFR available runway. I issued weather and winds and read off the ILS freqs and altitude restrictions. I took him off vectors for 13L and direct to 4 LOM. I issued descent to

1,500 ft and told pilot if he intercepted the GS, to go ahead and descend on it and I would monitor his altitude on descent. I told the pilot I would turn him on at the LOM (3.2 n.mi. w/crossing altitude of 957 ft – pilot “rogered.”)

All other traffic was cleared out of the way and the light twin landed ok. I learned later that he ran out of fuel as he was parking. The first and only mention of his fuel problem to ATC was at 1228Z even though he had been on our frequency for over an hour holding and bad weather was forecasted. Why he failed to mention the fuel problem earlier, I don't know. Had I not gone ahead and asked him about red lights you might be sending this to the NTSB.

* * *

17. Going from ABC to XYZ when I encountered low ceiling and rain, the water knocked out my radio. I located the highway coming to XYZ for navigation and had weather of between 700 to 1,000 AGL and visibility of 3-5 miles (no rain). I was flying a restored military fighter and cruising about 275 mph when without realizing it the visibility dropped drastically as did the ceiling but I managed to get under the clouds and keep sight of the road. I was approximately 10 miles south of MNO at this time. I planned to land at MNO even though I knew I would have to fly over town low but still felt this was better than circling low and going back for fear of a tower or hill, etc. The airport at MNO is on a hill on the north side of town. I thought that the airport and road would have me on a right base for landing but when I saw the runway I was already past it so again I continued on with the highway and followed it to XYZ where I landed with no problems. I was over congested areas too low and in order to land entered a control area in IFR conditions but had no radio to report my problems over or to declare an emergency. I just was afraid to circle at such low altitude and airspeed as I had the airplane slowed by flaps so I could see better. This occurred because weather worsened rapidly and the speed of the aircraft had me in it before I realized it. I just should not have been flying this type aircraft with the forecast I had.

* * *

18. I was working JFK departure control and approximately 0715 EST I noticed a target about 5 miles NE of Sates intersection on a NE bound track. I started a track on the target and received an unconfirmed altitude readout of 7,500 ft. Area weather aloft was CAVU. The target continued a NE track and about the time it crossed the 31R ILS course (JFK 130/15), commenced what appeared to be a slow descent. I requested XYZ tower to advise me if any aircraft had called them from the SW for landing information at 0723; XYZ tower advised me that they had a light twin on their frequency, SW of their airport. I requested they have the aircraft ident and state his altitude. The ident feature appeared on the target I was tracking and the pilot advised 5,000 ft. The ARTS data block indicated 5,000 ft at this time. I continued to track the aircraft until he dropped below radar coverage on his approach to landing at XYZ.

The Bohemia controller was working an air carrier turbojet into JFK and vectored him clear of my target track. The turbojet advised the Bohemia controller that he had the target in sight and that it was a light twin. He also confirmed the altitude visually with the ARTS data block readout.

This light twin has done this several times in the past to me as well as other controllers. I filed four ASRS reports on his TCA violations in the past. Why anybody, with a very expensive light twin, with all required equipment on board, would continue to violate the TCA is beyond me — the service is there, it's free, and all he has to do is call. Everytime we talk to him on the phone after the fact — it's like talking to a toilet bowl — takes everything in, makes a noise, and goes right back to normal.

Sometimes the decisions made by both the pilot and the controller can be subjected to examination with interesting results. In the following examples both parties appear to have contributed to the occurrence reported to the ASRS.

19. After departure from Pine Mountain Lake on a return trip to ABC, our alternator became inoperative. This was a pleasure flight, day trip, during which I was receiving my complex aircraft checkout from a close friend who is a CFI with multi-engine, instrument, and seaplane ratings. With evening drawing near, we made the decision to continue on to ABC rather than put down at a nearby field; it was Sunday and quick repairs were unlikely. Though we had shut down all unnecessary electrical load, our radios were both unusable by the time we reached ABC's airport traffic area. We carefully descended towards the airport to an altitude of approximately 1500 ft, deliberately above the established traffic pattern. Repeated attempts to contact the tower (120.4) were fruitless. We flew a "high" pattern rocking our wings conspicuously and continuously in an attempt to attract the tower's attention and receive the appropriate light-signal response.

Having received no signal on final, and there being traffic on the field, we continued another pattern circuit, this time at 900 ft, still rocking our wings. We had intended to land on this second pass, even though light signals had not been given. On short final, the tower cleared departing traffic directly ahead of us, forcing us to execute an immediate go-around. This time we passed the tower closely, again rocking our wings at an altitude of 300 to 500 ft; I could see their faces! Still no light signal. On the third pass we landed, expecting to be followed by an escort to the tower for having landed without permission; none came. After we tied the aircraft down, we called the tower. They stated that they had not seen us until just before we touched down on runway 30R, and they were not concerned because we had sequenced ourselves safely. They had not even thought about giving light signals. In order to miss us on that second pass they would almost have to have been sleeping. Why do we bother to learn light signal code if the tower doesn't bother using them? Obviously, the lack of recognition and concern on the part of the tower personnel was a surprise to me. When called they suggested that their attention had been diverted by an aircraft on the taxiway with a flat tire. At an airport as congested as ABC, this response seemed somewhat inadequate.

I have a second concern, however, regarding a potentially hazardous condition. This is in the area of pilot training and education. All three occupants of our plane are pilots, yet complete agreement on precisely what procedure should be followed in the event of a complete radio failure during a VFR landing was a point of contention. We each had learned slightly different approaches. Part I of the A.I.M. is very vague on the subject. While all possible emergency sequences cannot be detailed, procedures for the most common ones — such as total electrical system failure — should be spelled out. Unnecessary confusion has no place in an emergency situation.

Furthermore, we experienced additional confusion when looking for signal lights from the tower because of the glare resulting from the setting sun. None of us could be certain whether or not light signals were being beamed and we just were not seeing them through the sun's glare. When you think about it, how many metropolitan area private pilots have ever really seen any tower light signals and actually know what level of intensity to expect? Perhaps at some point in a student pilot's training there should be a callup to the tower (or ground control) from the runup area requesting a signal light test. This would assure that all pilots have some idea of what to expect and that the tower knows where they put the light and that they should still work!

* * *

20. We were cleared for a runway 35R profile descent into DEN. All radios and plate pages were in preparation for the 35R approach. Heading 270° for an intercept to the runway 35 R ILS. The gear was down and final approach checklist was completed. Prior to intercept approach control changed and cleared us to a runway 8R Back Course ILS. Letdown charts were changed and the copilot set up the front course instead of the back course. Pilot didn't catch it until starting the approach from vectors. A go-around was about to be executed when we were in the clear but too high. Runway 35R was available and the landing was accomplished VFR. The pilot should not have accepted the revised approach clearance to runway 8R after being prepared for a runway 35R ILS with such minimum time to prepare. The approach control should not change approaches at such a late stage of the flight.

* * *

21. ATIS information PAPA at 1720 was reporting "ceiling 800 overcast, visibility 2.5 in fog, temperature 39, wind 130 at 9, altimeter 29.88." Our flight was cleared to Fort Wayne, with only a minor change in the flight planned route. There were three persons on board the single-engine aircraft, including the pilot. The gross weight of the aircraft was 2,160 lb, 165 lb under the maximum gross weight. The center of gravity was 87.9 in. aft of datum, well within the allowable range of 85 to 93 in.

Our flight reported ready for departure on runway 6R at approximately 1725. The field was quite busy at the time, and takeoff clearance was not received until 1740:

Tower: XYZ, maintain runway heading, cleared for takeoff.

Shortly after liftoff, when the aircraft had achieved an altitude of approximately 20 ft (AGL), the following exchange took place:

Tower: XYZ, takeoff clearance cancelled.
Pilot: XYZ, Say again, please.
Tower: XYZ, Your takeoff clearance is cancelled.
Pilot: Do you want me to abort?
Tower: Affirmative.

The aircraft was landed without incident and with plenty of room to spare. After turning off the runway we were instructed to taxi back to the departure end for another try. Takeoff clearance was reissued in a few minutes and the flight was completed in a routine manner.

It seems reasonably clear to me now that my original takeoff clearance was cancelled because departure control was unable to provide separation at that time. I have no way of knowing whether the tower failed to coordinate with departure before issuing the takeoff clearance, or whether a situation suddenly developed which caused either tower or departure control to cancel the clearance. In any case, a very dangerous situation was created.

In all my flying experience, I have never heard or read the phrase "takeoff clearance cancelled." I obviously did not immediately know what was expected of me, and precious time was lost in seeking clarification. Furthermore, I had no idea as to the nature of the problem. Was a collision imminent? Was the rudder about to fall off of my airplane? Distracting thoughts such as these in no way alleviate the delicate problem of transitioning from full-bore maximum rate of climb to an acceptable landing configuration without loss of airspeed, with the aircraft in take-off trim, and with the end of the runway uncomfortably near.

It would appear that in a control zone under IMC, with all traffic presumably identified or accounted for, there can be little excuse for an occurrence such as this.

The following reports provide some insight into two typical judgment situations, one from a controller in a terminal environment, the other from an air carrier pilot. These two cases illustrate one of the latent values of occurrence reporting — education through hindsight. While post-occurrence analysis and education is no substitute for good judgment before the fact, it continues to be a valuable tool in reducing subsequent repetitions of questionable decisions on the part of both the reporter and others in similar situations.

22. I cleared Flight XXX to land on runway 32L when he reported over the outer marker. I also advised XXX that there would be two or three departures coming off runway 32L in front of him. I cleared Flight 222 for takeoff on the runway heading. Flight 333 was next, and when 222 was airborne I cleared 333 for takeoff with a 250° heading. When 333 was airborne I cleared 444 for takeoff on the runway heading. 444 was a little slow in starting his takeoff roll, and I was going to

abort his takeoff, but then he started moving good. I then went back to XXX and advised him that the last aircraft was on the roll on runway 27L. XXX was on short final when 444 became airborne at the north-south taxiway. 444 was not climbing fast, and XXX — who was now at the approach end of runway 32L — decided to execute a missed approach. XXX advised that he was going around, and he made a sharp turn to his left. I immediately told XXX to continue his turn to 180°, and then told 444 to turn right to 300°. After XXX made his initial sharp turn, he shallowed it out and I had to issue traffic which was 333 at XXX's twelve o'clock position and 1 mile. I turned 333 to 270°, and then told XXX to continue his turn to 180°. XXX continued his turn and I was able to let him roll out on a 220° heading and climbed him to 4000 ft, and shipped him back to approach control to be re-vectored.

Just prior to Flight XXX's initial approach I was told that ORD was going to triple arrivals, which meant that I was going to be working landing traffic on runway 32L, and landing on 27L to hold short of 32L (6,700 ft available). When I was told that they were coming into 27L, I still had 10 departures at 27L with more coming; I had good spacing on the 32L final, so I was trying to get out as many departures as possible before the runway 27L arrivals began. Twice before this incident I was able to get three departures out ahead of the runway 32L landings. I knew when I cleared 444 for takeoff that it would be close, but I felt that 444 would be through the intersection as XXX would be coming over the threshold of 32L. I feel that I used poor judgment in clearing 444 for takeoff.

* * *

23. Following a mechanical delay of 1 hour (for changing an auxiliary hydraulic pump), we took off from runway 35R at DEN; we were unable to pressurize the cabin, and returned to land on runway 8R 12 minutes later. Maximum altitude reached was 10,000 ft. The aircraft was approximately 4,000 lb over its structural landing weight limit. The aircraft was not properly inspected prior to the next takeoff. The second officer had tried to advise me of our overgross situation, but I disregarded his statement because he was new on the aircraft and our takeoff information card had shown a weight of only 4,200 lb above our legal structural landing weight, and I estimated our initial takeoff, maneuvering, and landing had consumed at least that much fuel. What I didn't realize was that our takeoff weight had been amended to show an additional 3,000 lb. The second officer had been informed of this by company load-planning, but he had not changed the gross weight number on our takeoff card.

Since we suspected that an open accessories compartment door was the cause of our pressurization problem (this door had been opened to improve cabin ventilation during the ground servicing), I requested company maintenance personnel meet the aircraft on the taxiway after clearing the runway, which they did. The door was closed and we proceeded back to runway 35R for another takeoff.

Only after we were airborne again did I fully realize that we had, in fact, landed over the legal structural gross weight and taken off again without the required inspection of the aircraft following an overweight landing.

Contributing factors were:

1. Inoperative belly pit door warning light system
2. Failure to do a static pressure check prior to first takeoff
3. My failure to heed the information given to me by my second officer on the assumption that he was too inexperienced in the aircraft to accurately judge the situation
4. The second officer's failure to persist in trying to communicate to me what I needed to know. He apparently was intimidated by me and kept silent about being overweight after the one attempt
5. My embarrassment over the additional delay and inconvenience to the passengers which caused me to be overly anxious to press on without taking the time to be sure I had fully evaluated all factors affecting the flight.

Occasionally, reporters describe an occurrence and at the same time question the wisdom of a general system decision; the following example reflects one pilot's need to challenge a policy judgment.

24. We were on final approach vectors heading 020° at 2000 ft MSL, cleared for the approach, but not on the published inbound course (041°). We were making this quasi-visual approach because of computerized noise sensitivity computations! Visibility was 1 mile at most at 1,500 ft and above to 5,000 or 6,000 ft. The pilot preferred approach would have been the ILS to runways 22 left or right. The wind was SSW at about 10 knots. As we made the transition to tower frequency, approaching the 10 mile DME from JFK we passed over the light aircraft. We never had time to move or blink! We missed him by approximately 200 ft (my guess). We reported the near-miss to the tower and were advised that they saw nothing on radar.

Admittedly the light plane should not have been in the terminal control area, but he was. And we should not have been making noise-oriented approaches in such poor in-flight visibility conditions; but we can not ask for a change without a lot of flack! If this doesn't constitute a safety problem (the inability of pilots in command to request their choice of approach when, in their judgment, weather conditions should override noise considerations), then what does?

Charts and Flight Information

A number of reports submitted to the ASRS deal with the subjects of charts and related flight information. The examples presented in this section of sample ASRS reports touch on some of those occurrences and situations involving the misinterpretation or absence of charts or other flight information.

The first block of reports on the subject discusses conditions or events which have prompted reporters to question decisions regarding chart management or development.

25. This is not a hazard, but the incorrect designation of useful information.

Several airways in Alaska (example: V-440 between Biorka Island VORTAC and Yakutat VORTAC), due to mountainous terrain and other siting factors, have published Minimum Enroute Altitude (MEA) gaps. The fact that an MEA gap exists is annotated alongside the particular airway; but there presently is no method that gives the public an idea where along the airway to expect the gap. This information is available but not presented on the chart. Apparently in an effort to inform the public when an MEA gap is not spread evenly on either side of the midpoint, a change over point (COP) symbol is being used.

By definition in Federal Aviation Regulation 95, a COP provides "continuous reception between facilities." The Airman's Information Manual also refers to COPs in the IFR enroute section and states, "COP's are established for the purpose of preventing loss of navigation guidance"

There seems to be a conflict in the definition and use of the COP symbol in this case. A possible solution to this problem would be to depict all MEA gaps in a particular specific manner. The airway could be depicted as interrupted at the point where the gap should start and then resumed where a reliable signal is again expected. The designation Minimum Reception (MR) gap could be written or indicated in its expected area. I believe this would eliminate the incorrect use of the COP symbol, provide reliable information to the public on the expected length and position of the gap, and better designate an area of unsatisfactory enroute navigational signal.

* * *

26. This is regarding Friend Airport, located at lat. 36°54'N, long. 94°1'W, on the Kansas City Section, three letter designated (H93).

I planned an IFR flight to Friend Airport, called the Flight Service Station, received a briefing, and filed an IFR flight plan with the Flight Service Station. Later, while involved in a conversation with another pilot, he said he used Friend Airport frequently in the past, but to his knowledge the airport was now closed and had been for quite some time.

Now alerted to this possibility, I started checking first the A.I.M., Airport Directory, the current Kansas City Sectional Chart, as well as my enroute and approach

charts; all listed Friend Airport. I then called the FSS and explained my problem. The FSS specialist also checked the latest NOTAMs and the A.I.M. and informed me that Monnett Municipal (H25), still listed on the sectional chart was closed, but he had no information on H93 being closed. I asked if he would call SGF or JLN to confirm the situation one way or another. He said he would send a telex, which would take about 15 minutes, but which in fact took almost an hour. The answer: "H93, Friend Airport, has been closed for three years."

Now with only 20 minutes until takeoff time this created some inconvenience to me and my company. Because of the increased distance they would now have to drive to the vicinity of Friend Airport and drive back to their original starting point. Also we were now unable to reach the people we were supposed to meet and inform them of our change in transportation plans, since they lived in another city and had already left to be at Friend Airport when we arrived. My passengers had already left for this airport so I couldn't reach them to tell them we would have to land at another airport and drive to our destination; this inconvenience is hardly worth notice, except part of my job is to keep such problems to a minimum. Also landing at a closed airport (even if successful) would be very hard to explain to my employer, and for that matter to anybody else.

For the most part, the people who compile this information should be complimented on its accurate presentation, but every now and then something like this comes up. The last time it happened to me was about 3 years ago. It involved a television tower east of Omaha, when I used to fly the airmail. The tower's elevation was 2,845 ft and Approach Control had been letting IFR traffic descend to 2,400 ft. It wasn't until they put high intensity strobe lights on the tower that anyone at approach control was informed of the situation, then mainly because of questions from pilots about lights that hadn't been there before. I know there are federal forms and approval that must be obtained to put up a manmade obstruction. In this case, surely, they were complied with because of the Federal Communications Commission and the unusual height — but still an important element of aviation didn't receive the proper notification.

I am calling attention to the importance of everyone in aviation to accept the responsibility to inform official services of such oversights due usually to lack of information, probably a breakdown in communications.

* * *

27. The following information should explain fully what took place in this situation; with all the paper Washington prints why don't they have a published S.I.D. for Washington National Airport. I understand this same type of thing happens several times a day.

Regarding the alleged operation inside Prohibited Area P-56, the following information is submitted. The instrument flight plan clearance was received and read back with the route and special instructions including noise abatement and departure

from DCA via runway 33 to the northwest. Upon requesting taxi-to-runway instruction I asked for and received a change from runway 33 to runway 36. This runway heading would place the aircraft in a north heading towards the west area of P-56. At no time was a heading assigned by tower control. In the absence of a published S.I.D., the normal procedure is to climb on runway heading to assigned altitude and contact departure control before starting a turn in any direction (reference: January 1978 issue of A.I.M., Part 1, pages 1-61, paragraph 2 under Departure Control). The tower did not hand me off to the departure frequency for what I thought was an unusually long time; however, there also was a lot of frequency congestion at that time. When tower finally told me to switch over I was climbing out of 3,000 ft to my initially assigned altitude of 5,000 ft.

I called departure control several times on 126.55 and received no answer even though I heard other aircraft on the frequency. At that point, I switched to my number 2 communications radio, selected 126.55 and gave two more transmissions that were not acknowledged. At this point I had climbed to 4,000+ ft and was in the vicinity of the river. This frequency was also very busy with other departures. Then departure control called me and asked if I was on the air, to which I replied "Roger." I was then given a left turn to a heading of 270°, which I immediately initiated. I reached 5,000 ft in the turn and reported same and was given a right turn direct to Martinsburg and climb to 10,000 ft. At no time during this procedure was there any effort made on the part of the controllers to expedite or alter my course away from the original departure heading.

In the interest of safe operating procedures and especially when in a busy terminal control area such as Washington, D.C., no aircraft will make a turn without establishing radio contact with the appropriate controller. At this time I would like to say that all of my radio equipment is in excellent condition at all times. Every effort to establish early communications was made by the pilot and at no time was there any indication of negligence or failure to follow my flight plan exactly as cleared.

* * *

28. Example: IFR flight plan from Missoula, MT to Helena, MT; the clearance would most likely read: "Cleared as filed, maintain (an altitude), contact ATC (a frequency) leaving 9,000."

This airport requires a special aircraft performance plus SID information to keep one from littering the side of a mountain during departure. No mention of SID information or aircraft performance capabilities is made before or during (a) the filing of an IFR flight plan, (b) issuance of an IFR clearance. Conscientious Flight Service Station personnel do at times question the pilot about special IFR departure information; however, there is nothing in the controllers handbook to question the pilot whether or not he has the SID information prior to issuing a clearance. It is possible for a pilot to make an IFR approach to the Missoula Airport, land, refuel, and depart without knowledge of the surrounding terrain. Without the SID information it is also possible to receive a clearance, take off as cleared (as per my example)

and drive into a mountain under IFR conditions. My point being that tower personnel are not required to ascertain whether or not the pilot has the SID information.

As a pilot I would suggest that prior to issuance of an IFR clearance in this situation, the controller should ascertain if the SID information is available to the pilot and that the pilot understands the special performance required. If the pilot does not have the SID information, then an IFR clearance should be denied until the pilot has and understands the SID information. This should also apply to FSS at nontower airports.

The other set of reports on the subject of charts and flight information highlights some actual situations that have occurred because someone used or did not use chart information in the manner in which it was intended to be used. This section could most appropriately be subtitled "Why do we do the things we do?"

29. I have made instrument approaches to XYZ airport many times in the last 6 years, and I have had to make missed approaches to this airport due to below minimum weather on several occasions. But this time I misinterpreted the approach minimums for the airport. Approach control gave me approximately 7 minutes advance notice before my initial descent for the start of the approach. Since I was the only pilot on board I was using the automatic pilot's localizer coupler to make the approach. I started my descent after again reviewing the approach plate for minimums. I broke out slightly above the minimums I had fixed in my mind and continued to the DME fix called for on the approach plate. I spotted the airport but was not in a position to land. I made a left turn in an endeavor to land on runway 36 but could not maintain visual contact with the airport. I began my climb and reported a missed approach to approach control. I requested and received clearance to land at my alternate airport. It was only at this point that I realized that I had been using the touchdown elevation as the approach minimums! The hair on the back of my neck stood up when I realized what a serious mistake I had made. I have tried to reason how one could make such a serious mistake, especially someone with the experience level that I have; perhaps complacency entered into this misinterpretation. Although I do not believe anyone but myself is aware of my unintentional violation of the minimums, I am submitting this report in the interest of safety . . . if it happened to me, it could happen to someone else.

* * *

30. We were on a VFR night flight from Zanesville to Cincinnati. On departure from Zanesville I monitored Indianapolis Center's frequency and found R-5503 to be inactive. Checking the enroute charts I noted the times to be 0800 to 2200; I assumed these times to be zulu times, but I discovered later they were local times. I proceeded to Cincinnati VFR, squawking 1200/Mode C. After receiving the ATIS information, I contacted approach control for radar sequencing to the airport. Approach control advised me I was in the restricted area. I then queried approach control as to the specific area I was in, as I believed that I was in an inactive restricted area. Approach control gave me the impression that I was in an active restricted area,

upon which I asked for immediate vectors out of the restricted area. Approach control then advised me that R-5503 was "cold" and that there were no difficulties.

I operate 90% of my flights IFR and only operate VFR if the weather is above 5,000 ft with 5 miles visibility. The clocks in the aircraft are set to GMT, as all weather reports, control zone operating times, and flight plans (to include EFC and EAC times) are given in GMT. I therefore assumed, wrongly, that the restricted airspace time was in GMT.

* * *

31. Flying VFR from Eastern Maryland to Dulles Airport (Armel VORTAC), I tuned in Armel VOR about 65 miles east and proceeded direct to the VOR. Excellent visibility at 10,500 ft, but the downward visibility was limited by a haze layer with tops around 7,000 ft. I did not worry about the Washington TCA since its top is 7,000 ft MSL and I was at 10,500 ft. In the general area of Washington, D.C., I was struck by the thought that I might be near P-56, the Prohibited Area over the White House, etc. I immediately went into a right turn and looked down and saw that I had almost entered the northeast boundary of P-56. I continued the turn to the east and diverted east and south then continued the flight to my destination. Afterwards I looked at the low altitude enroute chart I had been using (L24) and saw that P-56 was right in line from my origin point to the Armel VOR. However, it is a very small area on that chart and obscured by the TCA symbology, so it is easy to miss. Although I am quite aware of P-56 whenever I fly in departure and arrival phases at Washington National, I do not think much about it during enroute cruise at 10,500 ft.

* * *

32. We were given the following clearance:

NXYZ is cleared to the OAK airport via the MOD 180° radial to STOMAR, V-23 to LODI, V-108 to Pittsburgh. direct to Concord, Direct, Maintain 7,000 ft. Cross STOMAR at 3,000 ft or above and contact departure 125.1, squawk 2101.

The clearance was read back to ground control and we changed to tower. The tower wanted us to make an immediate takeoff, and we replied we would like to study the route. After looking it over, we asked if ATC didn't mean V-23W instead of V-23, they said they sure did, and we were ready to go. We departed MOD and followed our clearance to the letter. We were given several vectors and finally were given a VOR 9R approach clearance to OAK.

When we were out of 2,000 ft we changed controllers and were given a final vector to cross PLAZA intersection not below 1,500 ft. If you look at the OAK VOR runway 9R approach, you will find no PLAZA intersection. Now that causes confusion. We immediately determined that PLAZA is on the back course runway

11 approach and we asked for clarification. We were told we could continue the VOR 9R approach and transition to runway 11. By now, we were within 4.5 miles of the OAK DME. We were told we were to land on runway 11 because of noise abatement. We did land on runway 11.

* * *

33. I had been instructing my student in takeoffs and landings all day at State Airport. On our last landing we needed some fuel. I should note at this point that radio communications between my aircraft and the controllers had been very good all day. After being refueled at State Airport I preflighted my airplane and proceeded to complete the pre-takeoff checklist. I called ground control on an assigned frequency of 121.7 and asked for taxi clearance; I received no response on that frequency. So I tried to contact the tower on 121.3, again no response. I then checked for radio malfunctions and found none; I checked all the radio fuses, all were O.K. I then checked for a malfunction in the headset and found none. I then transmitted to another aircraft in the pattern on the above-mentioned frequencies; radio communications between my aircraft and the other aircraft were very good. I then turned my airplane toward the control tower and turned my landing light off and on a couple of times in hopes that I might receive light signals. I waited about 5 minutes and received no response (the purpose of that was that the controllers might be able to receive my transmissions and I in turn could get a takeoff clearance by light signal). But I received no light signal; it was as if no one was in the tower.

At 6:05, sunset, I taxied my airplane to the hold line of the active runway. One airplane was holding at the hold line ahead of me, so I called that airplane by radio and that aircraft responded; so radio communications between myself and that aircraft were also very good. I again tried to call ground and tower control, and again no response from either of them. I waited until the airplane that was holding in front of me took off; I continued to wait at the hold line until that airplane appeared to be about 1 mile out on a straight-out departure. I again looked for light signals from the control tower, and then proceeded to look very carefully around the traffic pattern for any other aircraft in the area. I saw none on final or base legs, I did see what appeared to be an aircraft on downwind. Then, assuming that the control tower was closed (thinking sunrise to sunset operations), I took off on a straight-out departure, climbing to an altitude of 2,500 ft MSL. I was still monitoring the tower control frequency, and did so until I was clear of the airport traffic area.

I proceeded to Metro Airport direct, a distance of 16 n.mi. from State Airport. I contacted Metro Approach Control, giving my position report and requesting landing instructions. After Metro Approach Control acknowledged my information I was told to contact Metro Tower for landing clearance and I did. After clearing the runway I contacted Metro Ground Control for taxi clearance and was also given a telephone number to call when I was able. Radio communications between myself and all the Metro controllers was very good from the time I took off from State Airport until arriving at Metro Airport (a radio check on the ground proved very good).

After contacting State Airport by telephone I realized that State Airport was still open and is open from 0700 until 2300 hours. I wasn't aware of this before because I assumed they were closed after many attempts to contact the State Airport control tower by radio. I thought the flight could be conducted safely from State Airport to Metro Airport under those conditions.

Later while looking in Part 2 of the A.I.M. did I realize my stupidity and lack of knowledge on the tower information. I realize I should have called by telephone for a takeoff clearance. It was not my intent to maliciously take off without being conscious of the safety of the flight and of others. I have 2800+ hours in various aircraft under all kinds of situations and weather conditions. I believe I have flown all 2800 hours safely and without a single complaint against me, nor have I committed any violation against the FAA Regulations in the past. I have instructed all my students well in all aspects of safety in the national aviation system. It seems that I have broken one of the very rules I have learned and taught. I know I must have a clearance to take off and land at an airport with an operating control tower, only I thought the one in question was closed. However, rest assured in the future a much closer look at the A.I.M. will serve to prevent the same or any other such occurrence.

HUMAN FACTORS ASSOCIATED WITH POTENTIAL CONFLICTS AT UNCONTROLLED AIRPORTS

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Introduction

Nontower airports are recognized as a hazardous area for midair collisions. In 1972 the National Transportation Safety Board (NTSB) issued a special study, *Midair Collisions in U.S. Civil Aviation 1969-1970*. This study said that "uncontrolled airports present a serious hazard to aviation safety in that 34% of the 1968, 56% of the 1969 and 38% of the 1970 midair collision accidents occurred at airports where there was no control tower." Since the principal means of avoiding conflicts in the traffic patterns of such airports is the see-and-avoid concept, it follows that breakdowns in the functioning of that concept were the immediate causes of those midair collisions. The purpose of this report is to examine one type of hazard — potential conflicts at nontower airports — in an effort to help pilots reduce the risks of midair collisions.

The report focuses on an analysis of a group of ASRS reports regarding *potential conflicts at nontower airports*.

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A potential conflict in this report is a situation in which at least one pilot perceived a potential for a midair collision.

Nontower airports fall into three broad categories:

1. Airports with a published unicom frequency (122.8 MHz).
2. Airports with a Flight Service Station (FSS) Airport Advisory Service located on the field.
3. Airports with neither a published unicom frequency nor an FSS located on the field.

Approach

The ASRS database was first searched for reports relating to the three categories of airports. At the time of the search there were 6,327 reports in the database. The search identified 279 reports in which the phrases *unicom*, *nontower airport*, or *airport advisory service* were used.

The 279 reports were then sorted to establish the group of reports that involved a "potential conflict" classification and with the aircraft in the traffic pattern. This sort yielded 127 reports for further analysis. The 127 reports were further sorted to identify each occurrence as to location in the traffic pattern and the relative motion between the aircraft when the potential conflict occurred. The reports were finally sorted by the three specific categories of nontower airports.

Each of the reports was read and features of interest such as commonality of sequence of events, pilot behavior, communications procedures, flight procedures and other features that seemed repetitive were recorded. The reporter's narrative was the most fruitful part of the database from which to obtain the detail and the flavor of what was happening prior to and at the time of the occurrence.

Results

Table 1 depicts the number of reports analyzed with regard to where the potential conflict occurred and the relative motion between the aircraft. About two-thirds of all the reports involved situations where both aircraft were on final leg, or one aircraft was airborne and one was on the runway. These findings are compatible with NTSB's findings that "most of the 1969-1970 midair accidents occurred at or near the uncontrolled airport at low altitudes (100 ft or less) at low closure rates. . . ."

Table 2 shows, for 127 reports analyzed, the number of aircraft that used appropriate radio procedures in each leg of the traffic pattern. While not all reporters specifically mentioned who used the radio, it was usually relatively easy to deduce whether two, one, or none broadcast their position and intentions. In some cases the ASRS safety analyst made a call back to the reporter to determine who used the radio.

TABLE 1. – TRAFFIC PATTERN LEG VS RELATIVE MOTION

	Same direction	Opposite direction	Intersecting converging
Runway Airborne Mix	16	20	10
Crosswind leg	1	1	1
Downwind leg	5	4	7
Base leg	2	2	7
Final leg	29	5	5
Takeoff leg	0	6	6

TABLE 2. – POSITION IN TRAFFIC PATTERN VS NUMBER OF AIRCRAFT USING APPROPRIATE RADIO PROCEDURE

Phase of pattern	Number of reports	Pilots, using radio, FSS, Unicom, Multicom			
		0	1	(0 or 1)	2
Base leg	11	1	6	(7)	4
Final leg	39	10	22	(32)	7
Downwind leg	16	3	8	(11)	5
Airborne, runway, mix	46	9	27	(36)	10
Crosswind leg	3	2	0	(2)	1
Takeoff leg	12	3	5	(8)	4
Total	127	28	68	(96)	31
Percent	100	22	54	(76)	24

Table 2 shows that in approximately 22% of the 127 reports, neither pilot was reported to have used the radio to communicate the aircraft's position and/or intentions. In approximately 54% of the reports only one pilot used the radio. However, if one pilot used the radio but the other pilot was not listening, that had the same effect as if no radio call was made. Thus, in 76% of the reports (22% plus 54%) there was no aural exchange of position information.

For further reference, table 3 lists the number of reports from each of the three categories of airports and their communication services versus the number of pilots using the services. There was sufficient consistency in the percentage of reports where two, one, or none used the appropriate radio frequency at the three categories of airports that they were lumped together for further analysis.

Tables 2 and 3 show that in about one-quarter of the occurrences the two pilots did use the appropriate radio procedures, but still had a potential conflict. There were several human factors identified that were associated with potential conflicts, for example, maneuvering with apparent knowledge of the other aircraft in the area, did not see, did not hear, misjudged distance/spacing, and aircraft blended into the background.

There were 50 reports of potential conflicts that occurred on base leg and final leg. Analysis shows that in 42% of these 50 reports, one person was using nonstandard procedures by making a straight-in approach.

In 97 of the 127 reports, evasive action was taken or there was no time for evasive action after the other aircraft was seen, and the only thing that prevented a collision was, apparently, chance.

TABLE 3. – COMMUNICATION SERVICES AT AIRPORTS VS
NUMBER OF PILOTS USING SERVICES

Services available	Number of reports	Pilots using appropriate radio frequency			
		0	1	(0 or 1)	2
Unicom on field	97	21	52	(73)	24
No Unicom on field	10	5	5	(10)	0
FSS on field	20	2	11	(13)	7
Total	127	28	68	(96)	31
Percent	100	22	54	(76)	24

Discussion

The information obtained from the ASRS reports on the circumstances leading to potential conflicts, such as lack of use of radio procedures, straight-in approaches, and misjudged distances, also appears to be compatible with other NTSB findings. The NTSB report said "... that the majority of the midair collisions which occurred during the three year period (1968-1970) could have been avoided by the see-and-avoid concept if the aircrews had conformed to the existing flight rules, followed sound cockpit procedures and if the aircraft involved had been more conspicuous," and "in the airport environment where 63% of all the accidents occurred, there was disregard for the right-of-way of other aircraft, a lack of adherence to proper pattern procedures and a lack of knowledge and alertness for the possibility of a midair collision, even though it was evident that all the ingredients existed."

Pertinent portions of the A.I.M.— The Airman's Information Manual (A.I.M.) contains rather specific recommendations about traffic advisory services when operating at nontower airports. First, it notes that "combining an aural/visual alertness and complying with the following recommended practices will enhance safety of flight into and out of uncontrolled airports." This can be read as an indication to pilots that aircraft information can be received by the auditory system as well as by sight.

The A.I.M. continues with a specific, different frequency assigned for each of the three categories of airports: 123.6 MHz at a field with a flight service station (FSS), 122.8 MHz at a field with only a published unicom frequency, and 122.9 MHz at a field with no facility (this was true during the period of this study; more frequencies have recently been allocated). A.I.M. notes also that at fields with part-time towers, the tower frequency is still used when the tower is closed. Therefore, in approaching or departing an airport without an operating control tower there should be no question about which frequency to use.

The A.I.M. also recommends that, "As standard operating practice all inbound traffic should continuously monitor the appropriate field facility frequency from 15 miles to landing" and inbound aircraft should broadcast position, altitude and intentions 5 miles out, and broadcast position on downwind, base and final.

For outbound aircraft the A.I.M. recommends "Departure aircraft should monitor the appropriate frequency either prior to or when ready to taxi," and broadcast position and intentions when ready to taxi and before taking runway for takeoff (the appendix contains excerpts from A.I.M., Part I).

The A.I.M. recommended procedure for radio usage augments the procedure for systematized flow of traffic and takes advantage of the use of the pilot's sense of hearing. It recommends that the pilot call the FSS, if one is located on the field, and obtain traffic advisories from FSS personnel. At other types of airports without an operating control tower A.I.M. recommends that the pilot use the appropriate frequency and use the radio as a public address system to announce position and intentions. The procedures, when properly used, should alert pilots to which runway is already being used, and should alert pilots in the pattern (if any) to the intentions of other pilots. If used by all pilots, the radio procedure should remove many of the surprises that come from another pilot's nonstandard or unexpected behavior, narrow the visual search area, and assist in maintaining visual separation.

Inadequacies in communication procedures— From the ASRS reports it is clear that a significant number of pilots did not use the A.I.M. recommended radio procedures to augment vision for purposes of separation.

In 22% of the reports, neither pilot used the proper radio procedures. Unicom could have helped these pilots avoid a potential conflict.

After I turned final I saw aircraft 'B' on downwind. This was the only other airplane in the traffic pattern. My student was making the approach and landing. We continued on final until we were past the numbers and beginning our flare when aircraft 'B' flew directly over us (I estimate about 15-20 ft) and made a landing. I took over the controls and evasive action was needed to prevent an accident. We started a go-around and turned left to parallel the runway. It was not until I established radio contact with the other aircraft that they realized what had happened or that we had ever been in the area. Later discussion with one of the pilots of the other plane revealed they were on a student training flight also. The CFI was in the left seat and his student (working on instructor rating) was flying in right seat. They said at no time did they see my aircraft

Unicom is a busy and sometimes congested frequency, but the following report is one of the few reports that mention frequency congestion. In any event, neither pilot used unicom to announce position.

After departing Big Beaver Airport from runway 27 (about 5 or 6 miles west of McKinley) I overflew McKinley Airport at about 2,000 ft MSL to determine from the wind tetrahedron what their active runway was. Noting that the tetrahedron and the wind sock indicated 27 as the active I flew away from the airport (to the south) to descend, and then entered a left downwind for runway 27. I did not utilize unicom to announce my entry into the pattern; there were no other aircraft visible and the frequency was congested. All was well during the approach until about half-way down final I noted aircraft B approaching head-on on final for runway 9. I immediately initiated a go-around with evasive action to the right, as did the other aircraft. After I had landed back at Big Beaver and gotten home I called McKinley Airport and spoke to the airport manager. He stated the tetrahedron was in fact indicating 27 as the active, but the pilot of the other aircraft thought that the wind was changing and decided to use runway 9

In another 54% of the reports only one pilot had used the recommended communication procedure. However, when one pilot used the radio but the other pilot was not listening, that had the same effect as if no radio call was made. Thus, in 76% of the reports (22% plus 54%) there was no aural exchange of current position information and pilot's intentions.

In the following examples, one pilot used unicom to announce position and intentions, but the second pilot apparently wasn't listening and a conflict occurred.

Student pilot and myself (CFI) practicing traffic patterns and landings . . . left-hand traffic. Announced on 122.8 when on downwind, base, and final approach.

Just as student flared for landing he shouted "J . . . C . . ." at the same time I saw a wing pass underneath our wing. I grabbed the controls and throttle and banked sharply right and up. At about 50 ft AGL and well to the side of the runway I looked back and saw a blue and white aircraft rolling out, crew looking straight ahead . . . estimate miss by no more than 2 ft.

* * *

I entered downwind at 1,000 ft announcing on 122.8 of my intentions; no other aircraft reported or in sight . . . called on downwind . . . final . . . at approximately 1/2 mile out about 200 ft I noticed aircraft 'B' on a right base leg in a slight turn right wing high . . . repeated calls to him that he was cutting off traffic on final . . . went unnoticed . . . he turned final at a height of about 600 ft near the end of runway. It looked like he was going around. I continued approach. He then pulled on full flaps, cut engine, and proceeded to drop directly in front of me. I had to swerve to right . . . give power and go around. He passed off the front of me at about 100 ft. Repeated calls for his number went unanswered. I went around and landed where he was waiting to do another touch-and-go.

In a few reports it is noted that monitoring of the frequency paid off for a pilot when a third party warned of two aircraft close together.

Incident occurred during a dawn patrol at 2G5. Right traffic is standard for runway 35. I was turning final off right base, when over the unicom I heard "Two aircraft turning final for 35." I then saw the aircraft 'B' low turning final off left base. I initiated a go-around. What I didn't see was brought to my attention by the alert unicom observer wherever he was located.

This study of 127 potential conflicts involves 254 pilots. In 28 cases neither pilot (56 pilots) and in 68 cases only one pilot used proper radio procedure. Thus, 124 (49%) of the 254 pilots did not take advantage of the additional protection of an aural transfer of information.

Traffic pattern errors— In addition to the apparent lack of observance of standardized radio procedures, there was an apparent lack of consistency in following standardized traffic patterns at nontower airports as recommended in the A.I.M. The traffic pattern recommendation is not specific with regard to the distance of leg from the runway, or the altitudes to be flown, but it does describe a systematized flow for aircraft. When entering the pattern, aircraft are directed to make an entry to the downwind leg, and are reminded to make left-hand turns when approaching the airport unless lights or traffic pattern indicators indicate a right-hand pattern. Straight-in approaches are not recommended.

The ASRS reports contain 50 potential conflicts on the base leg or final leg and in 42% of these reports one aircraft was reported to be on a straight-in approach. That suggests that when one aircraft is flown in a nonstandard pattern the risk of the pilots not seeing each other is high. It is difficult to explain why the pilot of an aircraft on straight-in does not see the other aircraft. It may be suggested that once a pilot is on final, his concentration is on the runway and the "see and avoid"

failure is the pilot "not looking" combined with "did not see" since an aircraft on collision course has zero relative movement and is harder for the eye to see. For example:

I was turning final on 34 (right traffic). Aircraft B was making straight-in approach. I saw B, made 360° turn to avoid collision. Right traffic is normally in effect for this runway. I made calls stating my position on downwind and base on 122.8. Aircraft B pilot later told me he was being vectored by Midland approach and was not on 122.8 and did not see me until I made an evasive turn.

In this situation it should be stressed that the pilot has an obligation to continue communicating with ATC, though he is encouraged to report position and intentions on the appropriate frequency.

Other reports involving straight-in approaches are cited later in other parts of the analysis.

There were also seven reports where one pilot flew a traffic pattern from the wrong side, that is, a left-hand pattern instead of a right-hand pattern.

. . . I crossed the airport at 1,800 MSL to check the segmented circle for wind and pattern indicators. . . the pattern indicators indicated runway 19 has a right-turn traffic pattern. The right-turn pattern for runway 19 was also previously confirmed from the A.I.M. I broadcast on 122.9 MHz entering downwind . . . turning base. Almost immediately thereafter I saw aircraft B coming at me at the same altitude. I turned right, broadcasting that I was going around and the aircraft B turned left, landing on runway 19. At no time did the pilot of aircraft B announce his intentions on 122.9 MHz

It is apparent that in 75% of the reports at least one pilot was denied the use of one sense – hearing – for an aural alerting as to someone else's position; the pilot chose to rely on vision entirely, and there was a failure of the "see and avoid" concept for a period of time.

Failures of visual separation— Since pilots rely heavily on the visual sense it is of value to explore the visual mechanisms that fail and permit inadequate separation to occur. An analysis of the possible failures of the ability to "see" suggest the reasons can be grouped into two broad categories: human and mechanical, as shown in table 4.

TABLE 4. – POSSIBLE FAILURES OF THE ABILITY TO SEE

Human	Mechanical
Did not see	Structural obstruction to vision
Did not perceive relative movement	Blinded by Sun position
Blend into background	Cloud or visibility or precipitation impairment
Did not look	Windshield
Tunnel vision (threat)	Dirty
Misjudged distance	Precipitation on
Intentional maneuvering	Reflections on

The narratives in the ASRS are not always complete enough to classify each report into one of these categories and subcategories. However, examination of the database suggests the classification is valid. Examples exist for each of the subcategories except windshield.

Under human factors the classification "did not see" means the pilot is looking, but can not perceive the relative movement of another aircraft, or the other aircraft blends into the background. Pilots report:

. . . At that time of day . . . traffic on base leg is extremely hard to see because of mountains in the background . . .

* * *

I was in the right seat of my aircraft allowing a friend in the left seat to practice landings. Just as the base to final turn was started I saw a Sun glint on metal, at about two o'clock low. I then saw it was an aircraft "B" type military trainer about 300 ft below on a straight-in final. I gave the pilot (of my aircraft) direction to get spacing and both aircraft completed touch and go landings uneventfully. The B pilot, a student under instruction, announced position on unicom about 15 seconds after I saw him. The point of all this was that the B was painted in a factory camouflage scheme. After I saw the Sun glint and was tracking visually it was very hard to distinguish the aircraft from the green field below it. If only my left seat had been occupied and if the B pilot had not made his call on unicom this would have been a classic small airport midair. Both of these "ifs" didn't occur and there was no immediate danger. But the camouflage paint added significantly to the hazard caused by the already dangerous practice of doing a straight-in to an uncontrolled airport.

In another report the pilot did not see the other aircraft for unknown reasons.

I had just completed a 45° from airport entry to downwind, for right traffic to runway 24, Oceanside, heading 060° when aircraft B passed me on my right, same altitude and within 75 ft. No evasive action was taken by me, not having seen the other aircraft which approached from my rear. Aircraft B, after passing on my right, turned in front of me to establish an adequate downwind leg, then a turn into base/final, close in approach. At this time I extended my downwind until B reached the runway threshold, at which time I initiated my final landing sequence. I contacted the pilot of B at the airport administration building. He indicated he did not see me at any time . . .

"Did not look" is just that – the pilot was not looking, at least not at the critical time just prior to the potential conflict. The reasons could be cockpit workload, fatigue, or inattention due to other pressures. In marginal VFR weather the pilot of the aircraft in the following example can be visualized as spending more time looking inside the cockpit at instruments than outside for other aircraft.

We were vectored to a straight-in ILS to MVY runway 24. MVY has no control tower. Weather was -X 3 miles visibility haze wind 2405. We intercepted localizer 3

miles outside the marker. When we were 2 miles from the marker approach control advised VFR traffic ten o'clock - 2 miles - southwest bound converging. We observed the traffic perhaps 1,000-1,500 ft higher than us. We intercepted the glide slope and started to descend. The VFR aircraft "A" started a descent into our altitude converging toward the localizer. When he was at the same altitude and perhaps one-half mile we executed a missed approach to the right. The VFR traffic was last seen tracking the localizer toward the airport. We were communicating with approach on number 1 comm. and unicom on number 2 comm. The VFR aircraft was on neither.

Tunnel vision as a human factor is that phenomenon which results from a person who feels threatened and who concentrates so heavily on the perceived problem (threat) that other events or tasks are completely ignored. In this next example, a student on the first solo flight appeared to concentrate on the traffic pattern task to the exclusion of other events.

I was returning to the airport with a newly rated private pilot at the controls. We heard on 122.8 that they were using runway 22 and there were two planes practicing landings. We announced our intentions of using runway 22 approximately 5 miles out and noticed the other plane starting his takeoff run. We again answered on 122.8 our entering a 45° angle one-half way down the downwind. By this time the other plane was just starting to turn downwind. I watched the other plane out of the rear window keeping the pilot (in my aircraft) informed of his location and told him the other plane was gaining on us. I could not see how the other plane could possibly not see us directly ahead. When we started to turn base, I lost sight of the other plane and made the statement to the pilot that the other plane would probably extend his downwind leg for more spacing. Our downwind leg was quite close to the airport as the new pilots are told to keep it in close. Our actual base leg was a continual 180° turn into final arriving on final with full flaps. As we just started to level our wings, we noticed the other B aircraft slice by on the inside of our left wing descending at the same time missing our plane by approximately 25 ft. We were approximately 300 ft AGL at the time. We immediately applied full power and started a right turn and a go around. This near mishap was witnessed by two other pilots, plus the airport manager/instructor who informed us upon our landing that this was his student's first solo flight; he had had 30 hours of instruction prior to his solo. After talking to the student pilot he said he did not hear us on the radio and never saw us in the air. We talked with the student pilot on the radio before we landed and informed him of almost causing a midair. I believe the student pilot was so preoccupied with trying to hold his pattern that he neither saw nor heard anything.

In a few cases a pilot simply erred and misjudged a distance. In this report the pilot admits he made a mistake in the spacing and attempted to apologize but the other pilot was angry.

A light aircraft taxied up to the departure end of the runway and looked for arriving traffic. He saw an aircraft on a long final and felt that he had time to depart before the arriving aircraft could land. He took the active and took off. As he lifted off he heard on unicom the pilot of the arriving aircraft ask for the identification of the departing aircraft. At about 150 ft into the air the arriving aircraft passed 150 ft

laterally and 25 ft horizontally from the departing aircraft. Since the departing aircraft felt that he had made an error he returned and landed hoping to apologize to the other pilot. The other pilot landed and without shutting down his aircraft stated that he was going to report the departing pilot for cutting him off. He said that he should have realized that he was approaching at 110 knots and should have given him more room. Reporter states that he was not in a hurry to leave the airport and really thought that he had enough room to depart.

Potential conflicts and intentional maneuvers— In some cases, the pilot intentionally maneuvered an aircraft into a situation where the margin of error was too small and created a hazard for others.

My student and I were practicing short-field landings and takeoffs. We had announced plans for a stop-and-go while on downwind on 122.9, normal at a field with no radio facilities. We accomplished a good, short landing, slightly right of center stopping about 500 ft from the threshold with a 10 knot wind down the runway (slight left crosswind). We were resetting the flaps and preparing for takeoff when, about 15 seconds after we landed, aircraft B landed beside our left wing. I was startled and discontinued our flight, taxiing in behind aircraft B. Upon questioning, the other pilot claimed that he: (1) saw nothing wrong with his actions; (2) was an instructor who had been instructing before I was born; (3) felt that I should have been broadcasting on 122.8, if anything, even though it wasn't listed as a Unicom field. He said he was listening on 122.8 but did not claim to have broadcasted.

Was the pilot of the second plane just obnoxious or did he truly not recognize he created a hazard?

Visual obstructions— The second broad category of possible failures to "see" is the mechanical failure category in which something physically obstructs the pilot's vision. For example, sections of the airframe blocking the view are suggested.

. . . while turning onto base with his left wing down it would have given him a good view of the final approach course. After he turned final he landed long and was a little high on the approach so that we were probably hidden under his nose.

* * *

. . . because of our low wing and the fact that 'B' was dragging in on low final, we did not see it at all until nearly landing on it . . . :

Conflicts between high and low wing aircraft will be the subject of a later study.

The Sun, while not, strictly speaking, a mechanical obstruction to vision, can cause a blind spot, which denies the pilot the ability to see. (Parenthetical statements in this report are the reporter's own.)

I was departing . . . to take an FAA written exam in DuPage, Illinois. Departure airport was unattended and I did not expect other aircraft to be in the area (pilot error). I tuned radio to unicom, monitored about 20 seconds (should have been longer) looked over traffic area and runway for other aircraft while taxiing about 5 mph (I should have stopped). Called in the blind that I was back taxiing runway 24 and taxied onto 24 at the far end. Immediately upon turning toward the approach end of 24 I noticed the other aircraft had just landed on 24. We were then separated by about 2,000 ft so no evasive action was required. Aircraft landing was no radio, yellow color, and probably near the Sun when I looked for other traffic.

When attempting to operate in a "see and avoid" environment, as the helicopter does in the next report, it is obvious that fog becomes an "obstacle" to seeing.

On approach to Davenport Airport, less than 1 mile visibility, approach advised target 4 miles twelve o'clock then 2 miles twelve o'clock. Approach tried to contact unidentified aircraft on 121.7 and 120.(?). Our aircraft tried to contact on 122.(?). No success. At a distance of one-fourth mile the helicopter passed in the fog. He was on no flight plan, no communications with control . . .

It is intuitive that things on the windshield will be an obstacle to vision. However, no reports were located in which pilots have specifically classified that as a cause for not seeing another aircraft.

Conflicts in which both aircraft were perceived— After exploring the failure to "see" and the failure to augment seeing with hearing it is desirable to consider the other 25% of the reports. In those reports (31) both pilots were on the appropriate radio frequency, position and/or intention information was announced but a conflict still occurred.

In looking at the human factor ingredients of those 31 reports it was found that there were 11 reports where one aircraft was maneuvered too close to another aircraft with the apparent knowledge the other aircraft was in the area. As seen in an earlier example, the maneuvering may have been done deliberately. Examples from 11 reports focus on the flying behavior of those who create hazards by intentional acts.

In the following example one pilot made a straight-in approach, apparently in spite of the knowledge that two other aircraft were in a standard pattern.

At 1920 hours, I approached Hilton Head Island Airport, contacted unicom and received reported traffic and active runway. I then entered a downwind for runway 21. Another plane was also on a very long downwind, substantially behind me and was not a factor in this incident. As I turned base for 21, I heard aircraft "B" contact unicom for an airport advisory. Unicom gave the requested information and advised of the two other planes that were in the pattern. I then announced aircraft A on left base for 21, Hilton Head, and unicom acknowledged. As I completed my base leg for 21 and prepared to turn final, aircraft B came roaring in doing a straight-in on runway 21. Naturally I had already begun my descent from pattern altitude for the landing on 21. As I started my turn for final, aircraft B roared by me at the

same altitude. I climbed out of the pattern to avoid a collision and advised unicom of same. I also requested a complaint be filed, to which aircraft B replied, "This isn't a controlled field." Both aircraft had landing lights on. My aircraft also had a rotating beacon on top, a strobe light under and working nav lights. This was a near miss caused by aircraft B's refusal to enter the traffic pattern and by his insistence upon doing a straight-in landing without consideration for other traffic.

Could the pilot of the aircraft on straight-in actually believe that because it is not a controlled field anybody can use any type of traffic pattern he wants to?

The pilot of aircraft B in the following example had an apparent disregard for margins of error.

Aircraft A reported on 3 mile final to Goodland radio and aircraft B reported he had aircraft A in sight and would follow aircraft A. I landed, executed a 180° turn on the runway to taxi to the terminal (no taxiways at Goodland) where I observed an aircraft on final approach, head-on to me. Radio twice said: "aircraft A is on the runway." "Aircraft B report on final." Aircraft B said he was going to land anyway. At this point he had approximately 40% of the runway available. I had all lights on, including taxi and landing lights. My first officer said twice to aircraft B that we were on the runway. Aircraft B said he was going to land and hold short of us. I had stopped aircraft A and started to turn around again to run from the landing aircraft. It became obvious that I could not turn around in time and that my only alternative was to taxi the 500 ft into the ditch with the possibility of collapsing the nose gear and a possibility of a fire. I was heading off the runway, grapped the mike and said, "No, you are not going to land, take the s.o.b. around again." Aircraft B descended to approximately 50 ft, then went around passing over us by approximately 100 ft. I turned aircraft A approximately 80° back right and taxied to the terminal without leaving the runway. Aircraft B said he was violating me for using bad language on the radio. I felt the only way to get his attention was to shock him into going around.

Note that the A.I.M. publicizes in its *Good Operating Practices* section (see appendix) the FAA voluntary pilot safety program, "Operation Lights On." All pilots are encouraged to turn their anticollision lights on any time their engines are running; and to turn on landing lights within 10 miles of any airport day or night. This procedure is to enhance the "see and be seen" concept. In the ASRS database when lights are mentioned it is usually mentioned as a fact, as it was in the previous two examples.

In the next example was a straight-in approach made to save time? If so, was it worth the risk?

Wind was light and variable, had been out of 330 at 2-3 mph earlier and runway 33 was still in use. Windsock was swinging all around but the wind was not enough to register on the windspeed gauge. I was with a student in aircraft A and we called for an advisory and were told that winds were light and variable and that 33 was favored. I then heard aircraft B say he was taxiing to 33. As we entered downwind I heard C call for an advisory, which was given. We reported downwind 33, full stop.

C again called for an advisory, this time I gave it to him from the air. B said he was taking off 33 and started rolling. We turned base for 33 and I heard C say he was on final for runway 15. I again told him that 33 was the active, one aircraft B was taking off and one, A, on final (us) for 33. The B pilot was airborne by then and took evasive action. The C continued the approach and landed on 15. We got on the radio again and said we were going around which we did and again set up the approach to 33 and landed. I talked to the pilot of C about listening to the advisory, not making straight-in approaches, and that he could have destroyed two other aircraft. He appeared to be totally unconcerned and his only comment was that the wind sock said 150°

In the next example a pilot deliberately flew near another aircraft to show or vent his anger.

Alamagordo-White Sands Regional Airport, no tower, unicom 122.8 only communications. Aircraft no. 1, whose pilot was unfamiliar with the airport, had just landed on runway 21 and was rolling out. Aircraft no. 2 taxied into position for takeoff after aircraft number 1 had passed. Aircraft no. 3 flew over the approach end of the runway and entered a close-in left downwind and base leg. Number 1 aircraft was taking longer than usual to clear the runway and had taxied past the normal turn off, thus preventing number 2 from taking off. Aircraft no. 3 did not extend his pattern and the pilot told the pilot of no. 2 he should check the regulations as to who has the right of way. When aircraft no. 1 cleared the runway, no. 2 started takeoff roll. At this point no. 3 was on close final. At about 1,000 ft down the runway, no. 3 overtook no. 2 and crossed left, over and in front of no. 2 within 50 ft. There is no room in aviation for pilots with this attitude toward safety. The pilot flying no. 3 aircraft is a flight instructor and flying school chief pilot. This was observed from a fourth aircraft at the approach end of the runway 21 by a student pilot and instructor pilot.

In the group of reports where both pilots made radio announcements there were eight regarding pilots who still failed to see and/or hear each other. In the following example, one pilot did not see the other aircraft and the second pilot did not hear the first pilot.

Aircraft A with a student and instructor was on left downwind after completing a touch-and-go. Aircraft B made a descending entry over the airport to a left downwind, overtaking aircraft A from behind and above. When the instructor in aircraft A saw aircraft B in the top of his windshield he allowed his aircraft to slow down and descend to avoid collision with aircraft B. The pilot of aircraft B said he had broadcast his intentions over unicom. The pilot of aircraft A said he also was monitoring unicom and did not hear any broadcast. The instructor said the pilot of aircraft B thought once he had broadcast his intentions he could do as he pleased. Aircraft B pilot never saw aircraft A. Aircraft A was operating with both landing lights and rotating beacon.

In addition, there were three reports on pilots who misjudged distance or spacing and the remaining reports were on miscellaneous problems such as announcing takeoff on one runway but actually taking off on another.

Approaching my destination airport at the end of our IFR flight from Atlanta, GA, I radioed for runway and traffic information while approximately 15 miles out on unicom. I was advised there was no traffic and the active runway was 3. Reaching the airport I entered a right downwind leg, standard at this airport, and reported downwind on unicom. When I began my base leg I heard aircraft B report he was departing runway 3 at Peter Knight. When I heard this I reported that I was on a right base turning final for runway 3. When I completed my turn to final I observed no aircraft in the vicinity of runway 3 and assumed he had departed. I continued my approach and landing and while rolling out through the intersection of runway 3 and 35, aircraft B passed overhead, barely missing the vertical stabilizer of my aircraft by not more than 10 ft. I attribute this incident to inexperience and hazardous operation of aircraft on behalf of the other pilot. Inadequate lighting of most single engine aircraft and obstructions to vision on this airport for the runways involved.

When both pilots did announce their intentions on the proper frequency, the main causes of potential conflicts in this study were the maneuvering of aircraft (35%) the failure to see (26%), and miscellaneous other errors (39%).

Summary

It appears that the Airman's Information Manual (A.I.M.) recommended procedures for the use of the radio at nontower airports were not being used in these cases. The A.I.M. notes that "combining an aural/visual alertness . . . will enhance safety." However, 49% of the pilots in this study did not avail themselves of the additional protection of an aural transfer of information. In 76% of the reports of potential conflicts, either one or both pilots failed to use the recommended procedures.

There were 50 reports of potential conflicts that took place on the base leg or final leg of the traffic pattern. In 42% of those reports the A.I.M. recommended traffic pattern was not being used, in that one aircraft was reported to be making a straight-in approach.

The reasons for the failure to see can be grouped into the two broad categories of human failures and mechanical failures. The reports are not always detailed enough to permit placing each report into the two categories and their subcategories. However, there are reports in the database that tend to support this model as a reasonable analytic tool for further study.

In 31 reports (25% of the study) both pilots had used the proper radio procedure but there was still a potential conflict. An analysis of these revealed that in 11 reports, one pilot maneuvered the aircraft so that the other pilot took evasive action or at least felt his safety was threatened. These reports suggest that a certain number of pilots may lack discipline or lack a sense of caution in maintaining an adequate margin of safety.

Though both pilots used the proper radio procedure there were eight reports in which the pilots still did not see each other. The remaining 12 reports were various other failures that permit two aircraft to maneuver close to each other.

Conclusions

Major behavioral factors that were associated with potential conflicts were (1) the lack of use of recommended radio procedures and (2) the use of nonstandard traffic patterns.

Some pilots apparently deliberately maneuvered their aircraft to cause a hazard for other aircraft.

The findings in this study of ASRS data regarding potential conflicts are in general agreement with the findings of the National Transportation Safety Board in an earlier study of midair collisions in U.S. civil aviation.

It is suggested that an innovative and far-reaching educational program may be useful in motivating pilots to practice safe procedures that have proved their effectiveness and have been recommended for universal application.

APPENDIX **AIRMAN'S INFORMATION MANUAL, PART 1**

Airport Advisory Practices at Nontower Airports

There is no substitute for alertness while in the vicinity of an airport. An airport may have a flight service station, unicom operator, or no facility at all. Pilots should predetermine what, if any, service is available at a particular airport. Combining an aural/visual alertness and complying with the following recommended practices will enhance safety of flight into and out of uncontrolled airports.

1. Recommended Traffic Advisory Practices— As standard operating practice all inbound traffic should continuously monitor the appropriate field facility frequency from 15 miles to landing. Departure aircraft should monitor the appropriate frequency either prior to or when ready to taxi.

a. Inbound aircraft

<u>Airport</u>	<u>Frequency</u>	<u>Broadcast position, altitude, intentions</u>	<u>Broadcast position</u>
Part-time tower (when closed)	Tower local control	5 miles	Downwind. base, final
Part-time tower (closed) but Full-time FSS	Tower local control	*15 miles	*5 miles
Part-time FSS (closed)	123.6	5 miles	Downwind. base, final
Full-time or Part-time FSS (open)	123.6	*15 miles	*5 miles
UNICOM	122.8	*5 miles	
UNICOM (if unable establish contact)	122.8	5 miles	Downwind. base, final
No facility on airport	122.9	5 miles	Downwind. base, final

b. Outbound aircraft

<u>Airport</u>	<u>Frequency</u>	<u>Broadcast position and intentions</u>
Part-time tower (closed)	Tower local control	When ready to taxi; and before taking runway for takeoff
Part-time tower (closed) but Full-time FSS	Tower local control	*When ready to taxi; and before taking runway for takeoff
Part-time FSS (closed)	123.6	When ready to taxi; and before taking runway for takeoff
Full-time or Part-time FSS (open)	123.6	*When ready to taxi; and before taking runway for takeoff
UNICOM	122.8	*When ready to taxi; and before taking runway for takeoff
UNICOM (if unable establish contact)	122.8	When ready to taxi; and before taking runway for takeoff
No facility on airport	122.9	When ready to taxi; and before taking runway for takeoff

Nontower Airports

1. Preparatory to landing at an airport without an operating control tower, but at which either an FSS or a UNICOM is located, pilots should contact the FSS or UNICOM for traffic advisories, wind, runway in use, and traffic flow information. CAUTION – ALL AIRCRAFT MAY NOT BE COMMUNICATING WITH THE FSS OR UNICOM. THEY CAN ONLY ISSUE TRAFFIC ADVISORIES ON THOSE THEY ARE AWARE OF. (See AIRPORT ADVISORIES AT NONTOWER AIRPORTS in Services Available to Pilots in this chapter.)

2. At those airports not having a tower, FSS or UNICOM (See AIRPORT ADVISORIES AT NONTOWER AIRPORTS in this chapter), visual indicators, if installed, provided the following information:

a. The segmented circle system is designed to provide traffic pattern information at airports without operating control towers. The system consists of the following components:

The segmented circle – Located in a position affording maximum visibility to pilots in the air and on the ground and providing a centralized location for other elements of the system.

The Wind Direction Indicator – A wind cone, wind sock, or wind tee installed near the operational runway to indicate wind direction and velocity. The large end of the wind cone/wind sock points into the wind as does the large end (cross bar) of the wind tee. FAA directives require that the wind

tee be free swinging and not tied down or locked to indicate landing direction. These signaling devices may be located in the center of the segmented circle and may be lighted for night use. Pilots are cautioned against using a tetrahedron to indicate wind direction and velocity.

The Landing Direction Indicator – A tetrahedron is installed when conditions at the airport warrant its use. It may be used to indicate the direction of landings and takeoffs. A tetrahedron may be located at the center of a segmented circle and may be lighted for night operations. The small end of the tetrahedron points in the direction of landing. Pilots are cautioned against using a tetrahedron for any purpose other than as an indicator of landing direction, and to disregard the tetrahedron at an airport with an operating tower. Tower instructions supersede tetrahedron indications.

Landing strip indicators – Installed in pairs as shown in the segmented circle diagram and used to show the alignment of landing strips.

Traffic pattern indicators – Arranged in pairs in conjunction with landing strip indicators and used to indicate the direction of turns when there is a variation from the normal left traffic pattern. (If there is no segmented circle installed at the airport, traffic pattern indicators may be installed on or near the end of the runway.)

b. Where installed, a flashing amber light near the center of the segmented circle (or on top of the control tower or adjoining building) indicates that a right traffic pattern is in effect at the time.

c. Preparatory to landing at an airport without a control tower, or when the control tower is not in operation, the pilot should concern himself with the indicator for the approach end of the runway to be used. When approaching for landing, all turns must be made to the left unless a light signal or traffic pattern indicator indicates that turns should be made to the right. If the pilot will mentally enlarge the indicator for the runway to be used, the base and final approach legs of the traffic pattern to be flown immediately become apparent. Similar treatment of the indicator at the departure end of the runway will clearly indicate the direction of turn after takeoff.

d. When two or more aircraft are approaching an airport for the purpose of landing, the aircraft at the lower altitude has the right of way, but it shall not take advantage of this rule to cut in front of another which is on final approach to land, or to overtake that aircraft. (Ref: FAR 91.67(f))

Traffic Patterns

At most airports and military air bases, traffic pattern altitudes for propeller driven aircraft generally extend from 600 feet to as high as 1500 ft above the ground. Also traffic pattern altitudes for military turbojet aircraft sometimes extend up to 2500 feet above the ground. Therefore, pilots of en route aircraft should be constantly on the alert for other aircraft in traffic patterns and avoid these areas whenever possible.

Traffic pattern altitudes should be maintained unless otherwise required by the applicable distance from cloud criteria (FAR 91.105).

ALERT BULLETINS

Introduction

Previous ASRS Quarterly Reports contained examples of Alert Bulletins generated on the basis of reports submitted to the ASRS. Because the Alert Bulletin procedure is a vital element of the ASRS concept, and because many Alert Bulletins and the responses to them produce information of benefit to the aviation community, an additional sampling of Alert Bulletins and responses is provided in this appendix to the seventh quarterly report. The bulletins have been categorized to assist readers in locating bulletins of particular interest.

Air Navigation

1. Text of AB: Harrisburg, PA, Harrisburg VORTAC (HAR): A recent pilot report contends that this VOR has been a marginal navigational facility for several years. Cited as two of the reasons for that contention are the large segment of NOTAMed unusable portions of the VOR signal, plus the continuing problem of extremely erratic CDI needle deflections while flying in either direction along V-12. The reporter mentioned that an FAA study conducted several years ago found a suitable site for relocating the VOR in order to eliminate the problems, but that to date no improvements have taken place.

In addition, the A.I.M. Part 3 Airport/Facility Directory entry for this facility does not provide an applicable altitude for the unusable 273°-313° segment of the VOR signal.

* * *

Text of FAA Response: The Harrisburg, Pennsylvania VOR has become a marginal navigational facility for the past several years. The restrictions as published in A.I.M. Part No. 3 are – *VOR PORTION UNUSABLE*

105° – 140° beyond 26 n.mi. below 2,700 ft
140° – 165° beyond 30 n.mi. below 2,600 ft
195° – 230° beyond 28 n.mi. below 2,800 ft
273° – 313° beyond 12 n.mi.

When an A.I.M. entry does not indicate a specific altitude, the interpretation is that all altitudes are affected.

Background information available indicates increased restriction of the VOR brought about by housing development growth and environmental changes. Studies and recommendations have been conducted in an effort to reduce restrictions. A recommendation to relocate in 1965 was abandoned based on a cost versus benefit basis. At that time, the restrictions did not warrant the cost of relocation and the V-12 radial was not restricted. The performance has since deteriorated and attempts to correct the situation have failed.

Our most recent engineering study indicates there are no known means where a modification to the existing facility will improve performance.

Further studies by our Air Traffic and Flight Standards Regional Divisions on the need and importance of these approach radials are in progress. The results of these studies will determine whether conversion to doppler or relocation is necessary.

2. Text of AB: Upland, CA, Cable Airport (CCB): On two different days, pilot was making a VOR 6 approach to Cable Airport. On both days the pilot was told to contact Brackett ATCT. The pilot asked approach control for the Brackett ATCT frequency. The approach controller said "It's on the plate." However, the Brackett tower frequency is not on the Jeppesen or NOS chart for VOR 6 approach to CCB.

* * *

Text of FAA Response: Pilot comments are valid. Our investigation reveals a necessity to take the following immediate actions:

1. Instruct Ontario Approach controllers to issue the Brackett Tower frequency to all aircraft on the VOR 6 approach to Cable Airport.
2. Request that the Brackett Tower frequency be placed on the next revision to the VOR 6 approach plate.

3. Text of AB: Ketchikan, AK, KTN ILS DME-1 Approach: A military pilot report indicates that there is an apparent discrepancy on the indicated approach plate. The report states:

Looking at the approach plate, one assumes the 40 DME fix is off the Annette VORTAC. However, if one were to fly in to 40 DME and then switch on the LOC, they would find themselves well right of course . . . I confirmed this just last week . . . Juneau and KTN FSS personnel both assumed, as I did, that the 40 DME was from ANN. Proper intercept from the airway is at about 53 DME off of ANN and 40 DME off of ECH (the runway 11 localizer-DME)

* * *

Text of FAA Response: The initial approach fix is at the 40 DME position on the Annette Island VORTAC radial 303 degrees. This fix was selected to permit descent within controlled airspace and a smooth transition to the localizer.

As charted with zero error in the ground station generated courses, airborne receivers, or display equipment, this initial approach fix will occur north of the intersection with the localizer course centerline. The fix is not established to be specifically on the localizer centerline or on either side of it.

The angle of intercept between the Annette 303° radial (123° inbound) and the I-ECH localizer (109° inbound) is 14°. Because of this acute angle, the apparent intersection of the course centerlines can be changed by several miles DME when the airborne $\pm 40^\circ$ allowable error is encountered in the VOR receiver or display instrumentation. Any off-track piloting technique further aggravates the apparent displacement of the course intersection as measured from the Annette

VORTAC. The initial approach fix is 40 DME from the Annette VORTAC as confirmed by the Ketchikan and Juneau FSS personnel. On those occasions when users encounter the localizer centerline prior to this DME fix, it is an indication that their airborne course display has positioned the airplane southwest of the precise zero error ground track of the 303° VORTAC radial.

The descent from enroute MEA to 4,700 MSL can be safely accomplished tracking either the 303° radial from Annette VORTAC or the I-ECH localizer.

This approach and transition has been developed to provide a fuel efficient flight path for southbound traffic landing at the Ketchikan airport.

The charting is considered adequate; however, our Alaskan Region is researching ways to further clarify the intended path of flight.

4. Text of AB: Washington, DC, Washington ARTCC (ZDC): Two reports indicate a problem relating to high-altitude routes AR-1, 2, 3, and 7 south of Carolina Beach VOR (CLB). Airspace north of CLB is positive control airspace (PCA); segments of these routes south of CLB are not in PCA. Controllers must therefore monitor code 1200 traffic and primary radar. Large volume of VFR military traffic uses these areas; reporters indicate that it is often impossible to monitor primary radar and VFR traffic effectively in view of heavy civil traffic on these routes.

* * *

Text of FAA Response: The subject of this aviation safety report appears identical to Unsatisfactory Condition Reports (UCRs) nos. 287701 and 287799 (also from Washington ARTCC). Enclosed is a copy of our response to the UCRs.

Both UCRs discuss the monitoring requirements (primary radar) in 7110.65-604.b. In addition, UCR no. 287701 brings up the requirements for display of VFR targets (code 1200) in 7110.65-603.a.

Concerning paragraph 603.a., the procedure contains relief, within itself, when "excessive VFR targets derogate the separation of IFR traffic." The author of the UCR recommends reinstatement of "waiver for not monitoring primary/VFR targets." Washington Center operated under a waiver to paragraph 604.b. requirements from September 1974 until October 15, 1976. The requirement for display of VFR code 1200, as specified in paragraph 603.a., was not previously waived. We consider the relief specified in the procedure as appropriate to the identified problem.

With regard to 7110.65-604.b. requirements (subject of previous waiver) to display primary radar in combination non-PCA/PCA areas, during the life of the previous waiver, there was apparently little progress towards resolution of the clutter problem for which the waiver was intended. We do not consider a waiver as the appropriate remedy. Other methods of providing relief are being pursued.

We are providing guidance to the regions concerning paragraph 604.b. and the manner in which paragraph 604.c.(2) may be used for temporary relief when primary

radar clutter adversely affects the presentation to the point that normal target tracking cannot be accomplished. At the same time, appropriate priority will be given toward long term improvements/solutions to the problem.

Airports: Facilities and Maintenance

5. Text of AB: Elberton, GA, Elbert County-Patz Field (27A): Pilot report alleges several irregularities including high trees on approach and departure paths, inadequate maintenance of runway lights, high grass obscuring lights, inaccurate wind direction indications (poor location of windsock), and improper maintenance of a county landfill, causing a serious bird problem at airport.

* * *

Text of FAA Response: On December 20, 1977, an official of Elbert County advised that a recent CETA public works project included approach clearing and clearing of trees near the wind cone. He also advised that runway lights are now operational. The official doubts if any action will be taken in the immediate future regarding closing the landfill. The Atlanta Airport District Office (ADO) placed the airport in a status of noncompliance on or about July 1, 1971 for failure to clear trees in the approach to runway 10. The ADO in its letter of September 15, 1977, requested the airport sponsor to relocate the landfill and further advised that a reinspection is scheduled by end of February 1978 to determine if approach clearing and landfill relocation have been accomplished.

6. Text of AB: Everglades, FL, Everglades Airport (X01): Pilot report indicates windsock is shielded from south winds by a row of trees parallel to the runway; the windsock indicated calm in the presence of a strong, gusty south crosswind, which caused trouble landing on the 2,400-ft strip.

* * *

Text of FAA Response: The manager for the Collier County Airports is aware that the windsock at Everglades Airport, as presently located, does not give dependable wind direction information. Trees and vegetation on the southwest side of the airport between the runway and bay aid in preventing erosion. The airport manager has agreed to relocate the windsock and will consult with the Miami Airports District Office on a site that will provide dependable wind direction information to pilots.

7. Text of AB: Hayward, CA, Hayward Airport (HWD): The report describes a compass rose located about 200 ft short of approach end of runway 28R, directly under approach path, and describes two recent occurrences in which a controller failed to warn landing traffic of an aircraft in position on the compass rose. Reports ask whether a new compass rose can be located in a less hazardous location.

* * *

Text of FAA Response: The compass rose at this airport is more correctly located 500 ft from the threshold of runway 28R and 50 ft north of the extended centerline. The threshold bars for

runway 28R were positioned in accordance with design criteria to provide a 15-ft vertical clearance under the required 20-1 approach surface for this runway.

In view of the air traffic controller's objections, the airport management has discussed this with the chief, Hayward ATCT, and is investigating the feasibility of relocating the compass rose in question.

Airports: Lighting and Approach Aids

8. Text of AB: Savannah, GA, Savannah Municipal Airport (SAV): Report states that since the new tower was built, runway lights have been operated by Flight Service Station on the other side of the airport. Reporter points out that under conditions of severely restricted visibility, the tower may not be able to determine whether the runway to which an aircraft has been cleared is lighted and cites a recent example in which runway 18 was lighted when runway 9 lights had been requested.

Text of FAA Response: It seems the contractor who was to move the runway light controls and associated paraphernalia did not do a thorough pre-engineering job. Consequently, the project has slipped from an original tentative completion date of early July to an indefinite delay. The contractor has just completed some additional research and submitted his plans to the Airport Commission for approval.

9. Text of AB: Hayward, CA, Hayward Air terminal (HWD): It is alleged that the taxiway lights are nonstandard, not visible enough, do not present an adequate outline of the taxi areas, and are unsafe. It is reported that even pilots familiar with the airport encounter taxi problems at night.

* * *

Text of FAA Response: The City has recently installed centerline taxiway reflectors on the principal taxiways at this airport and has been requested to consider the installation of adequate taxiway lighting. The taxiing problems have diminished with the installation of the reflectors.

Text of Airport Manager's Response:

1. Centerline reflectors have been installed at the 28L and midfield intersections.
2. A budget request is currently pending to permit the installation of an entirely new set of taxiway lights at the airport. No action has been taken on the budget request; no timetable estimate for installation of the new taxiway lights is available at the present time.

10. Text of AB: Montezuma, GA, Municipal Airport (53A): Charts show the airport as having runway edge lights and a rotating beacon. These are frequently out of service, according to a pilot report. After a recent occurrence, an electrical junction box was found to be full of vines; relays and light sockets were rusted; the rotating beacon rotates but lights are out. The problem is alleged to affect all airport electricity including wind tee lights.

* * *

Text of FAA Response: On December 20, 1977, the airport manager advised that all airport lighting is now fully operational.

11. Text of AB: Chicago, IL, O'Hare International Airport (ORD): Pilot of a light twin aircraft reports having difficulty seeing the runway 36 edge lights on two different occasions. On the first occasion, the pilot could not see any of the edge lights while positioned for takeoff on runway 36; this condition persisted even after the pilot was assured by the ATCT that the edge lights were turned on and at their highest intensity. In the second instance, the pilot could see only four or five lights during the takeoff roll; the full runway edge lighting did not become visible until the aircraft was about 25 ft in the air.

* * *

Text of FAA Response: Runway 18/36 at O'Hare International Airport has low intensity lights as noted in the Airman's Information Manual. This runway is used primarily as a taxiway for large aircraft exiting runway 14L/32R and when wind conditions and air traffic warrant, is used for light aircraft arrivals on 18 and departures on 36. There is a VASI for landings on runway 18 set at a 6° approach slope for STOL operations. This runway is used under VFR conditions and there is no requirement for full runway edge lighting to be available during takeoff. There are no plans to improve existing runway lighting on 18/36 at O'Hare. If an aircraft operator feels the lighting is inadequate for his particular operation, the remaining 12 runways have standard high intensity lighting available and runways 14 L and R have centerline lights for Category 2 operations.

Text of Airport Manager's Response: I wish to thank you for forwarding your recent NASA Safety Bulletin. We are aware of the condition of the edge lights on runway 36.

The upgrading of the lighting on runway 36 is on our priority list of items to be completed in our construction program to commence in the spring of 1978. We have been assured by our consultants that the type of edge lighting to be placed on the runway will greatly improve the lighting conditions.

I appreciate your interest in the operations of O'Hare and recognize that your assistance will help make the airport safer and more convenient for the use of the flying public.

Air Traffic Control Facilities and Procedures

12. Text of AB: Fort Lauderdale, FL, Ft. Lauderdale-Hollywood International Airport (FLL): On left downwind approach for runway 9L at FLL, a turbojet pilot was cleared for a visual approach and instructed not to turn base until at least 5 miles out. Based on a 6-mile DME reading from the FLL VORTAC (situated on the airport), the pilot initiated a descent out of 3,000 ft and a left turn to base leg; approach control informed the pilot that he had made his turn too early and radar showed the aircraft to be only 3 miles out. Upon contact with the ATCT the pilot was chastised for his proximity to a noise sensitive area. The pilot suggests that if distances from the airport are of such importance for noise abatement then ATC should establish a common point for determining exact distances and communicate its location to flight crews.

* * *

Text of FAA Response: It is impossible to define the disparity between the radar displayed 3 miles and the DME reading of 6 miles as the radar antenna and VORTAC are near to each other.

Regardless, noise procedures employed by Miami Tower call for jet and four-engine prop arrivals from the north remaining at or above 3,000 ft until west of the outer marker. Facility policy requires controllers to inform pilots when they are in a noise-sensitive area. There is certainly no intent to chastise and we regret the pilot felt this had occurred.

13. Text of AB: Anchorage, AK (ZAN): A report states that there has been either explicit or implied facility approval for the use of the following routes at the same altitude:

1. ANCHORAGE J501 BETHEL, and
2. ANIAK (ANI) DIRECT ANCHORAGE

The report alleges that the ANI Direct ANC was implemented without flight check and by application of a waiver by ZAN. The report also describes a recent systems error which resulted from the use of these two routes with opposite direction traffic at same flight level.

* * *

Text of FAA Response: The "ANIAK direct ANCHORAGE" route is in fact an unauthorized, non-part 95 direct route and was erroneously portrayed on the sector controller's overhead reference chart. Immediately following the system error occurrence, this route was removed from the controller reference chart. A complete review of authorized direct routes is under way at the Anchorage Center. By January 1, 1978, all approved routes will be accurately portrayed on controller charts along with appropriate airspace to be protected.

14. Text of AB: New York, NY, JFKennedy International Airport (JFK): Controller reports discuss noise abatement procedures in use 2200-0700 hours, when runways 4 are used for landings, runway 13R for departures. Departures are given a right turn to 185° as soon as possible after take-off, which normally involves crossing the 04L ILS course inside the LOM, causing potential conflicts with traffic inbound on that ILS, as well as a potential wake turbulence problem for landing aircraft.

Tower is not supposed to release 13R departures after inbounds are pointed out and arrival is 10 miles from the airport, but even with this restriction, reports indicate that less than standard separation can occur (1½ miles and 200 ft under IMC in one report) and a wake turbulence potential remains.

Reports also indicate that Freehold-Coyle departure restrictions are not being adhered to (aircraft are turning well west of 4L intersection); and that a problem can exist whenever 13R departing aircraft are permitted to turn to 185° prior to reaching the airport boundary.

* * *

Text of FAA Response: The runway configuration described, i.e., landing runway 4 and departing runway 13R with an initial heading of 185°, is applicable at Kennedy Airport between 2300 and 0700 hours, local time and not from 2200 to 0700 as stated in the report.

Referring to the above situation, our Standard Operating Procedures (SOP) Manual states that the departure "should be rolling not later than the time at which the arrival is fifteen (15) miles out on base/final." Please note that we use fifteen (15) miles and not ten (10) miles as stated in the report.

When the initial heading of 185° is issued, it is not facility policy to specify that the turn be made as soon as possible after takeoff, as stated in the report. The Standard Instrument Departure Procedure (SID) for runway 13L/R states, "climb on assigned departure heading for vectors."

The procedures described above are detailed in Kennedy Tower Order 7110.29 dated October 20, 1975, and in the Kennedy Tower Standard Operating Procedures (SOP) Manual dated June 15, 1977. The same information is explained in Kennedy Tower Letter to Airmen 75-1, Subject, "Kennedy Airport Noise Reduction System," which has been in effect since November 28, 1975 and was distributed to all interested aviation users at least 30 days prior to implementation.

The above procedures were reviewed with the New York Common IFR Room in December of 1976. Since that time we have had no complaints from either controller personnel or from aviation users.

Based upon all of the above, we believe the procedures outlined in the above documents are safe, efficient and extremely beneficial from a noise abatement point of view.

This report has been coordinated with the New York Common IFR Room.

15. Text of AB: New York, NY, JFK and LGA Airports (New York Common IFR Room, N90): A controller report describes confusion and numerous potential conflicts during two periods when LGA was utilizing the BC runway 31 approach and JFK was using the ILS 13L/R approach simultaneously. Report alleges that N90 SOP does not provide procedures for this configuration and indicates that numerous aircraft violated other airports' airspace during the operation.

* * *

Text of FAA Response: The BC runway 31 approach to LaGuardia is very rarely used while Kennedy is conducting ILS approaches to runway 13. These simultaneous approach procedures are not described in the N90 SOP as a joint operation. However, controller confusion should not exist since in separate sections of the N90 SOP the procedures and associated airspace descriptions are well depicted for each operation. The airspace allocation is well described and whenever this situation exists, precise coordination between sector supervisors takes place. Since precise coordination is mandatory for airspace to be used for the LGA BC approach, airspace violations should not occur. The supervisors on duty during the apparent two periods mentioned in the report, related that no potential conflicts or uncoordinated airspace violations were reported or observed.

16. Text of AB: Various locations: ASRS reports indicate a need for precise instructions for aircraft requesting clearance into TCA's. Practices and controller techniques appear to vary according to the ATC facility and individual controller involved. Pilots indicate that they are sometimes uncertain of whether they have been cleared to proceed into a TCA. For example, some controllers answer initial request by assigning a transponder code and thereby imply that aircraft has permission to continue. Other controllers may assign a code but do not wish aircraft to penetrate the TCA

until more specific clearance is given. It has been suggested that when controllers answer an initial call and assign a transponder code, they either issue a definite clearance into the TCA or issue instructions to remain outside the TCA until further advised.

* * *

Text of FAA Response: Based on the fact that some controllers are not formulating TCA clearances that leave no doubt in the pilot's mind that approval or denial has been received, we will publish a reminder in our Air Traffic Service Bulletin which will highlight this problem. Further, to determine the extent of the problem, and appropriate follow-up, we have queried all TCA locations through our FAA regional offices to review the reported situation as it relates to their TCA and provide us with their findings.

17. Text of AB: Santa Ana, CA, Orange County Airport (SNA): It is alleged that air carrier aircraft on approach to SNA are being given preferential handling with resultant disruption of normal traffic flow and problems for general aviation aircraft at this very busy mixed traffic facility.

* * *

Text of FAA Response: Air carrier aircraft on approach to Orange County Airport are not given preferential handling. However, there are times that control decisions or techniques used to accommodate heavy user demand for services may give the impression that the "big ones" on final approach are being given priority handling.

All arriving IFR aircraft are sequenced on the final approach by Coast Approach Control. Orange County Tower receives radar pointouts from Coast, so they are aware of the position of the IFR inbound before they can be visually observed. These aircraft, along with visual approaches conducted by Coast, are then mixed and sequenced with VFR aircraft under tower control for runway 19R.

VFR aircraft in the pattern, downwind, base leg, etc. that cannot complete a normal approach to runway 19R without conflicting with the aircraft already on final for that runway, must adjust their pattern (extend downwind, circle, or even go around). In some cases, especially during heavy pattern traffic periods, a decision is made to try and fit a small aircraft in front of a jet or air carrier already on final. When it is apparent adequate separation will not exist, this "small" aircraft is usually sent around or circled. We do not consider this as affording priority, but merely correcting a control decision that would not work and should not have been attempted in the first place.

IFR aircraft are not circled, and especially air carrier jets, when they are on final approach. Attempts are made to keep jet go-arounds to an absolute minimum. A jet go-around is required to adhere to the noise abatement procedures (fly a MUSEL-2 departure). This means the aircraft must overfly a very sensitive noise area and adds at least 15 minutes to its flight path.

Some VFR pilots at this airport may feel the air carrier is given preference, especially when their particular operation is delayed. Controllers at this facility use every control technique at their disposal to provide the best possible service to all users of this airport. The above statement is based on the many compliments received pertaining to exceptional services being provided by the controllers.

The problem of the many aircraft competing for the use of runway 19R has been discussed with the airport manager. In these discussions, the possibility of discontinuing all touch-and-go landings, or even light aircraft operation, on runway 19R (ILS runway) was considered. The airport manager was advised that it may not be appropriate to curtail touch-and-go landings when traffic conditions permitted these operations without conflicting with ILS traffic. A final decision has not been made on this matter.

Control techniques practiced by the tower will be continually monitored to ensure all aircraft using this airport are afforded equal consideration.

Hazards to Flight

18. Text of AB: Burbank, CA, Hollywood-Burbank Airport (BUR): Reports from this and nearby airports indicate a high potential for possible traffic conflicts due to common use of frequency 121.90 MHz by ground control at four airports: Hollywood-Burbank, Hawthorne, Long Beach, and Santa Monica. Three of the four airports each have a runway 7/25. All airports are within roughly 20 miles of each other. One reporter stated: "it is conceivable, if not inevitable, that a pilot will hear another airport's instructions and mistake them for his own, thence crossing an active runway without permission." Controller reports state the problem has not been solved by an earlier reduction in transmitted power outputs and asks whether additional ground control frequencies can be implemented.

* * *

Text of FAA Response: Frequent temperature inversions in the Los Angeles basin create a ducting condition contributing to interference between stations on the frequency 121.9 MHz. The AWE-400 frequency management office is engineering the necessary frequency replacements for resolution. The completion estimate is September 1977. The problem should be cleared at that time.

19. Text of AB: Fresno, CA, Fresno Air Terminal (FAT): High intensity floodlights located off the west end of runways 11-29 are reported to be causing momentary blindness to pilots operating aircraft on runways 29L and 29R. One reporter suggests that the problem could be cured by realigning the lights which are used to illuminate a golf driving range situated on airport property.

* * *

Text of FAA Response: The City of Fresno has been advised to investigate floodlighting problems off the west end of runway 11-29 and make any necessary corrections that are required to resolve the blinding effect.

20. Text of AB: Elizabethville, PA: A pilot reports nearly striking an unlighted microwave relay tower while on approach to home airport at Elizabethville, PA. Tower was formerly lighted; it is located 9 miles from Ravine VOR (RAV) on the 300° radial.

* * *

Text of FAA Response: The Federal Communications Commission (FCC) provided the following information regarding a microwave tower in the vicinity of Elizabethville, PA:

Tower location: lat. 40°36'26"
long. 76°52'46"
Height of tower: 181 ft above ground level
Overall Height: 1121.5 ft above mean sea level

From the above height and location, this tower is currently not reportable and does not require obstruction lighting.

According to the FCC, FAA's Aeronautical Study No. 70-EA-142, dated April 29, 1970, determined that the obstruction lighting of the tower was no longer required. It is our understanding that this study evaluated a proposal to reduce the height of an existing tower. This tower, which appears to be the subject of the Alert Bulletin, is located some 15 miles from the Ravine VOR on a 290° radial and about 5 miles northwest of Elizabethville, PA. The tower is not currently depicted on the aeronautical charts.

21. Text of AB: Chicago, IL, Midway Airport (MDW): A pilot reports that flocks of seagulls on the airport present a hazard to aircraft operations, particularly during takeoff and climb segments. The reporter notes that this operational hazard is compounded by the near total lack of open space available in the densely populated neighborhood surrounding the airport.

* * *

Text of FAA Response: Gulls were observed by airport management and air traffic controllers lingering for 2-3 days at Midway Airport several times during the past fall season. It is customary for bird hazard information to be included in the ATIS recordings and individual pilot advisories issued by the ATCT. Scare tactics are used by airport personnel to disperse the gull concentrations. The City of Chicago is cognizant of the bird hazard problem and is studying ways of controlling the situation.

22. Text of AB: Hebron, TX, Vicinity of Air Park-Dallas Airport (F69): Pilot reports that while on VOR-18 practice approach to Love Field, inbound at 2,500 ft MSL, in contact with Addison Tower, he encountered a home-built which crossed his flight path in vertical climb about 75 ft ahead of his aircraft. Location was 1½ miles north of Air Park-Dallas Airport. He indicates that although traffic at Addison is heavy enough to require suspension of local operations between 1600-1900 hours, aerobatic flights operate without control at the northern boundary of the Addison control zone, often within the zone. He alleges that the situation is well known to the Dallas GADO but that they are unable to take action. The area of concern is under the DFW TCA, in an extremely heavily-used corridor.

* * *

Text of FAA Response: The Dallas, Texas, General Aviation District Office (GADO) received a Safety Improvement Report (SIR) regarding this occurrence. The Dallas GADO followed up on this incident by interviewing the controllers at Addison Control Tower and Love Field approach control. The pilot who submitted the SIR was also interviewed at that time.

In talking with the pilot, it was determined that the incident occurred outside the Addison control zone at an altitude in excess of 1,500 ft above ground level. In this locale, 1 mile east and 2.2 miles north of Air Park-Dallas, an aerobatic practice area has been established. This area was designated by the local aerobatic club specifically to minimize conflict between arriving and departing aircraft in the Dallas/Fort Worth area, and local sport aircraft. Additionally, this location provides an excellent landing surface below the small 3,300-by-2,600-ft airspace, should an emergency landing become necessary due to engine or other mechanical malfunctions. Also surrounding property owners have given approval for these operations above their land.

The aerobatic area receives little use, major activities being confined primarily to afternoons or the weekends. When the area is in use, Addison control tower is so advised, and this information is broadcast on the Automatic Terminal Information Service (ATIS). The pilot registering the complaint advised us he received ATIS information concerning the aerobatic activities.

In the vicinity of Air Park-Dallas, many different types of sport aviation activities are conducted including aerobatic flight. As long as aerobatic flight is conducted in accordance with FAR 91.71, aerobatic flight would be legal. Coordination of this aerobatic area has been effected with air traffic control especially at Love Field and Addison Airport.

We do not feel that the aerobatic practice area poses any safety problem, especially when considering the large amount of air traffic control services available to those aircraft practicing in or transiting the area.

Military-Civil Coordination

23. Text of AB: Eielson AFB, Alaska (EIL): The letter of agreement between the Eielson tower (USAF) and the RAPCON and PAR facilities (FAA) serving Eielson tower permits the tower personnel to assign directions for traffic "breakouts" even though those controllers do not have complete knowledge of RAPCON's traffic or terrain clearance requirements. A recent occurrence involved IFR traffic broken out to the east at 2,000 ft MSL, below MVA.

* * *

Text of FAA Response: The letter of agreement between Eielson RAPCON and tower is in the process of being changed to standardize go-around/missed approach procedures to "runway heading unless otherwise coordinated." This proposed change is for reasons other than terrain clearance and is being reviewed by the facility FATTAC.

A breakout to the east at Eielson is safe and approved as long as the aircraft is issued instructions to climb to 2,900 ft. This procedure is contained in a facility order.

24. Text of AB: Edwards AFB, CA; Edwards RAPCON: Controllers report that it has become accepted practice to release aircraft into R2508 without prior coordination of such actions with the Edwards AFB Flight Center. Citing the inordinate length of time required to accomplish the specified civilian/military coordination, reporters contend that exceptions to the required coordination have become practice due to the RAPCON's ability to accomplish proper separation by means of radar

monitoring after the released aircraft is airborne. Reporters allege that complete coordination between all the necessary military control agents, the Edwards AFB Flight Center, and Edwards RAPCON requires an average of 15 minutes per aircraft release.

* * *

Text of FAA Response: The Edwards RAPCON does not allow the release of aircraft into R-2508 without prior coordination with the Edwards AFB Flight Test Center. As of March 25, 1977, there was only one known case of this happening and corrective action has been completed with regards to that occurrence.

25. Text of AB: Montgomery, AL, Dannelly Field (MGM): A Flight Service Station specialist points out that flight plan data on military training route operations are not available at this FSS in sufficient time to brief civil pilots regarding military activity. Reporter states that military aircraft are Air National Guard flights from Montgomery, AL and Navy flights from Pensacola, FL. The reporter indicates that the revised notification requirements of FAA Order 7110.77 are not being adhered to.

* * *

Text of USAF Response: 187th TRS coordinated with chief of Montgomery FSS. All aspects of FAA order 7110.77 containing revised notification requirements for LATR's were discussed. Mutual agreement on local procedures was established.

Ames Research Center
National Aeronautics and Space Administration
Moffett Field, California 94035, Aug. 31, 1978

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16. Abstract During the seventh quarter of ASRS operations, 1,193 reports were received. A sample of reports relating to operations during winter weather is presented. Several reports involving problems of judgment and decisionmaking have been selected from the numerous reports representative of this area. Problems related to aeronautical charts are discussed in a number of reports. An analytic study of reports involving potential conflicts in the immediate vicinity of uncontrolled airports has been performed; the results are discussed in this report. It was found that in three-fourths of 127 such conflicts, neither pilot, or only one of the pilots, was communicating position and intentions on the appropriate frequency. The importance of providing aural transfer of information, as a backup to the visual "see and avoid" mode of information transfer is discussed. It was also found that a large fraction of pilots involved in potential conflicts on final approach had executed straight-in approaches, rather than the recommended traffic pattern entries, prior to the conflicts. The implications of this are discussed. A selection of alert bulletins and responses to them by various segments of the aviation community is presented.					
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